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**MODLER for Windows**  
Economic Information and Modeling System

# Getting Started and Maintenance Guide

MODLER Information Technologies Press  
Philadelphia and Cambridge

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# Introduction

Windows versions of the MODLER Economic Information and Modeling System are the latest generation of a software package that has its origins in the mainframe era. As has been true of all versions of this software since 1968, each of these are designed to be evolutionary, incorporating time-tested algorithms but fully adapted to the most modern protocols. Furthermore, especially during the past ten to fifteen years, a number of facilities have been progressively incorporated into the software that permit MODLER to operate comprehensively in context of the Internet, as that has developed, as well as on standalone microcomputers and those connected to local area networks.

The current MODLER version is designed specifically to work with Microsoft Windows XP, Windows Vista and Windows 7, yet at the same time to be as backwardly compatible as possible to Windows 2000, Windows NT and even Windows 9.x and 3.x. The goal has always been not to force MODLER users to change in lockstep with Microsoft but instead to permit each person to upgrade comfortably at his or her own pace. The MODLER for Windows user interface obeys the standard Windows conventions and in addition incorporates facilities that readily permit the hand-in-glove use of the software with Internet browsers, such as Internet Explorer, Mozilla Firefox, Netscape, Opera, and prospectively Chrome. Using MODLER, you can thus link directly to websites and, in particular, easily download datasets that can be imported immediately. The [www.modler.com](http://www.modler.com) website is a dedicated resource and MODLER itself supports a wide variety of data transfer protocols. Moreover, links can be made between the program and online data vendors that allow essentially continuous data bank updating. On a monthly, quarterly, or annual schedule, well-known data vendors distribute MODLER-compatible data files via direct Internet downloads.

An important characteristic of MODLER is its support for legacy applications. Such applications will continue to operate, even to the point that models created in the mid-1980s can (and do) still work today, notwithstanding that as models they are likely to be rather dated. In order to support easy conversion, by design the macro language of the Windows versions is a superset of that of earlier DOS versions. More generally, legacy support is a MODLER design principle in all respects: the Windows version is designed to work with files created earlier using the MS, PC and DR DOS operating systems. Specifically, data banks, Memory Files, and model files created using DOS versions of MODLER can be used unchanged with Windows versions. Plot macros and Table Templates created using DOS versions can be used with Windows versions, although those generated automatically by Windows versions will incorporate specific commands that are not recognized by the DOS versions. To a degree, the evolving Windows operating systems inevitably force unavoidable change: for instance, some MODLER macro files created during the past 30 years may need to be updated due to irreconcilable differences between DOS and Windows, particularly in those instances in which

external-to-MODLER DOS programs are launched by such macros, but even in the worst case the required macro code changes are likely to be marginal.

The purpose of this *Getting Started and Maintenance Guide* is to provide you with installation information. However, the focus is wider than just the initial installation procedures. The immediate process of installing the software on your computer is for the most part automated. Once you issue the Setup command, and have answered such questions as which directory(ies) you wish to use, the installation itself is almost automatic. But there are also several aspects of the configuration of the software that need to be considered, and usually will require you to make a few decisions. In addition, this guide describes the files that the MODLER installation puts onto your hard disk; in the case of particular text files it provides information about content that might be helpful from time to time.

This guide also describes common update procedures, which is its maintenance function. The MODLER software is updated regularly, reflecting not only improvements made in the software but as well the effect of technology advances. Over the past decade, there has been a fundamental change in the degree to which data sources use the Internet as a distribution mechanism. With the ongoing development of wired Internet connections, and progressively faster wide-area wireless facilities, there is likely to be considerable further change during the next ten years, refocusing computing in the process. An aspect of the current update process is that during the past eight or ten years, since version 10.4 of MODLER for Windows, it has become possible to update MODLER more or less automatically by downloading each new version from the [www.modler.com](http://www.modler.com) website. Details concerning this process can be found by clicking on **Help** on the main MODLER menu during a MODLER session, then selecting **Contents**, and choosing "Updating Your Copy of MODLER." More recently, starting with Build 24 of version 10.4, an automatic updating facility has been added: provided that your initially installed version of MODLER is this build or later and your machine is connected to the Internet, when changes are made to MODLER and are published on its website, you will be notified automatically that a later version of the program has become available. If you choose to update to that version, this update will occur essentially automatically, although sometimes you may need to subsequently restart MODLER for the update to take effect. This facility is described later in this document.

Please note that in the interest of simplicity, this *Getting Started and Maintenance Guide* limits itself to explaining the specific aspects of installing, re-installing, or updating MODLER. There are a number of ancillary topics that could be addressed and are important in terms of the appearance and accessibility of MODLER on your machine. For example, the color of the banners and other aspects of the MODLER screen displays are each determined by the current Windows settings on your machine, controlled by the particular version of this operating system you are using. You may be happy to use the default settings, but should you wish you are also able to more specifically configure these displays. If you are reading this guide either onscreen or from a printed copy has been produced on a color printer, you will notice in the Figures below that various different banner colors appear. Similarly, some of the Figures display the banner text in

larger or smaller fonts; this too potentially is under your control via the various Windows display settings. There are a number of books available that discuss such topics in detail, ranging from the well-known *Idiots Guide to...* series of books to the much more technical *Windows ... Secrets* series.



# The MODLER Installation Process

Today, in terms of the medium used, MODLER software is distributed in a variety of ways, but usually either by CDROM or as a set of files that are sent as email attachments — or are downloaded otherwise from the Internet. There is an essential similarity between all these methods, as will be described. However, there are certain important definitions that transcend the distribution medium. As a matter of definition, the term “Installation” will be used to refer to a process that is complete in itself and involves putting onto your machine *all* the files that are necessary in order to execute the MODLER for Windows software. In contrast, the term “Update” will be used to refer to a process that involves replacing specific files, but not all the files necessary to operate MODLER. As a consequence, before you will be able to update MODLER you (or someone else) must first have installed it – therefore we will consider installation first.

## Initial Installation

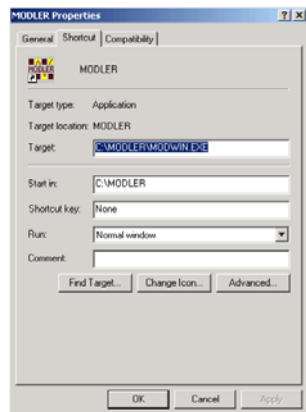
This section describes how to install MODLER for Windows for the first time on a particular machine. Alternatively, it provides instructions for any complete re-installation of the software, as if from scratch. Particularly in the case of a first time installation, the first step depends upon the form in which you receive the Installation Files:

- 1) If you received a CDROM, place this disc in your machine’s CD or DVD drive, as relevant. Much less commonly these days, if you received diskettes, place the one marked Installation or System Disk 1 in your diskette drive. In either case, MODLER for Windows will be installed using what is technically known as a *Setup* program: the executable for the installation program is named SETUP.EXE. Ordinarily, this program will be executed automatically if you are installing from a CDROM – simply inserting a CDROM into the relevant drive on your machine will usually cause it to execute automatically.
- 2) If instead you received MODLER as an email attachment, or more generally an Internet download, the “deliverables” will usually consist of from 1 to 3 compressed, self-extracting executable files. Begin by creating a temporary directory/folder on your hard disk, which ultimately can be erased when you have finished the MODLER installation; call it \JUNK or \TEMP or some other such name. Then expand all the downloaded self-extracting files into this directory, by first copying them to the directory and then executing them in turn.

Next, you should create a permanent directory to hold the essential program files. This directory can be called \MODLER or some other such meaningful name. In

any case, *this directory must be nominally different from any that you might have created during the process described in the paragraph just above*, which is why \JUNK and \TEMP were suggested there as temporary folder (or directory) names. Furthermore, the permanent directory should be a direct root directory, so that its full name might be C:\MODLER, assuming that C: describes your hard drive. The program files for the DOS and Windows versions of MODLER are nominally different, so that it would even be possible to use the same directory for both versions. However, if you do this, you run the risk of inadvertently deleting some demonstration and other supplementary files, so that it may be better to call your MODLER for Windows program directory C:\WINMOD, if you are running both the DOS and Windows version, in the process separating the program files for each version.

This new directory will be permanent, as noted, and normally will be used to hold, among other things, the executable files for MODLER for Windows, plus the helpfile; it may from time to time incidentally contain demonstration files put there during a MODLER installation or update. Later, once MODLER has been installed, whenever a Shortcut has been created (for instance, in order to permit you to execute the program from your “desktop” folder), this permanent directory must be identified as the “Start in” directory, as shown in Figure 1. Notice that the name of the MODLER executable, MODWIN.EXE is also included.



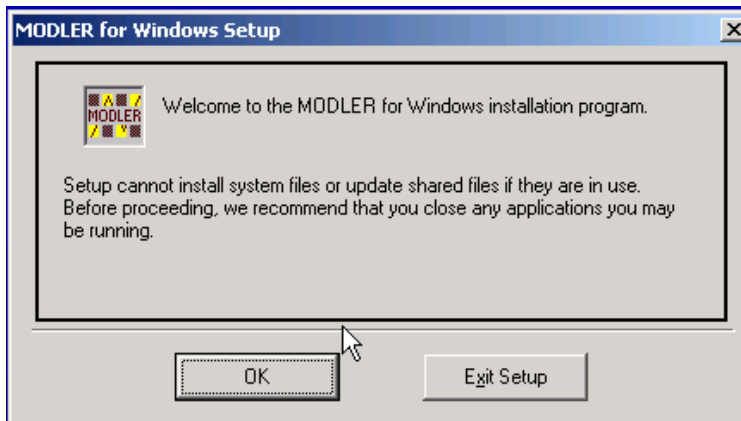
**Figure 1. Shortcut Properties**

At this stage, you will be ready to begin the actual installation. As mentioned earlier, the installation executable is named SETUP.EXE and it can be run from the Windows Run command, using a command of the form:

C:\JUNK\SETUP

assuming that you have loaded all the installation files into the C:\JUNK directory; of course, if you have created this installation directory using another name and/or drive, use the relevant drive letter and directory name.

In either case 1) or 2), at this stage the installation program should be in execution. You will first see a message indicating that Windows is copying initialization files and then, in the middle of your screen, a display like that shown in Figure 2; this display may be embedded in a blue fullscreen display. Obviously, if you wish to continue with the installation, you should press the **OK** button at this point.



**Figure 2. Setting Up for Installation of MODLER for Windows**

Once you click OK, you will then be presented with a display like that shown in Figure 3, which also may be embedded in a slightly more elaborate blue fullscreen display.



**Figure 3. Directory Selection Screen**

Regarding Figure 3, notice the **Change Directory** buttons on the right-hand-side. In each case, the button can obviously be used to browse your hard drive and select another directory. The top one changes the *Program* directory, the directory into which the installation program will install the MODLER executable files, here shown as

C:\MODLER\. As indicated earlier, this Program directory should be unique. In particular, it should *not* be the same as any temporary directory you might have created earlier to store downloaded files. Furthermore, be aware that when reinstalling or updating MODLER all files in this permanent directory are subject to being overwritten, without further warning, if they have names the same as those of any of the MODLER program files that are about to be written to this directory during that installation or update. If you will be running DOS and Windows versions of MODLER on the same computer, you might therefore want to change the MODLER for Windows program directory to something like C:\WINMOD. Generally, in any case, it is also a good idea for this program directory to be linked directly to the root directory, as implied by C:\MODLER and C:\WINMOD.

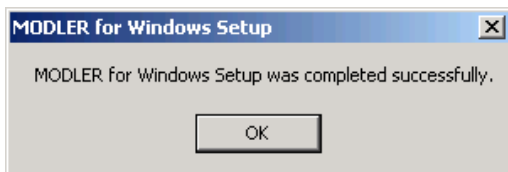
The second **Change Directory** button shown in Figure 3 is a feature of a first-time installation of MODLER for Windows on a given machine. In this instance, this button permits you to determine the *Home* and other data file directories, which are described in more detail below, but which essentially is your personal storage directory used by MODLER to save the files it generates during its operation, including copies of the Memory File and various temporary files. The Home directory must *not* be the same directory as the Program directory and, in addition, it should *not* be shared with any other user. Furthermore, this directory is normally only chosen during the initial installation of MODLER. Once MODLER for Windows has been installed on a given machine, the Home directory will have been established and the installation process, if repeated, will thereafter usually ignore it.

Now look once again at Figure 3. On the left is a button displaying a computer, which at first may not look like a button. This is nevertheless the one you must press in order to actually install the software. When you press it, initially a rapid succession of a screen displays will flash by, which indicate that the Installation program is copying and installing files. After a few moments, you will see as well the dialogue box shown in Figure 4, the purpose of which is obviously to ask you whether or not you wish to install the SOAP Toolkit 3.0. SOAP is an acronym for *Simple Online Access Protocol*. This protocol is used whenever MODLER is automatically updated online. Generally, you should answer “Yes” to the question if you have not previously installed the SOAP Toolkit and if you think that you will wish to use MODLER’s automatic update facility. Installation of the SOAP Toolkit is essential to this facility. In addition, for this facility to work effectively, you must be logged into your machine as Administrator, or at least have Administrator rights, especially in the case of Windows operating systems that are descendants of Windows NT, which include XP, Vista and Windows 7.



**Figure 4. SOAP Toolkit Option**

Once you have answered Yes or No, the SOAP Toolkit Option dialogue box is followed by the final display shown in Figure 5, which clearly indicates that the program has been successfully installed, and at which point the screen will pause until you click the **OK** button.



**Figure 5. Successful End of Installation Notice**

What has occurred during this last phase of the installation process is further explained in the next section, entitled “A Peek Behind the Curtain.” In addition, you are encouraged to use Windows Explorer or other file manager program to look at the files that have been installed on your computer. The appendices to this *Getting Started and Maintenance Guide* provide lists of these, as well as describing where they will have been put.

## **A Peek Behind the Curtain**

Even in the case of a first installation of MODLER for Windows, prior to that installation you may already have on your computer a version of MODLER; for instance, you may have a DOS version that you wish to upgrade to the Windows version. You may also wish to reserve the option of continuing to use the DOS version from time to time, at least during a transition period. For this reason, the MODLER for Windows installation process is designed to be Legacy Aware. We are conscious of the fact that much of the value of MODLER as a software system resides in the macros, data banks, models, and other files that you may have created during what may have been literally years of work, and that therefore it is very important for you to be able to use these in the future, if at all possible, as MODLER continues to evolve.

In general, a new installation of MODLER will not affect the various files that you have *consciously created* as you have used earlier versions of the program, including but not limited to data banks, model files, macro files, plot files, and table templates. Actually, there may be certain exceptions to this rule; for example, if you have named your bank DEMOBANK.BNK or a macro file DEMO.MAC, a table template DEMO.TAB, or a model DEMO.MOD, each of which are generally reserved names. But except in such cases, program installation (or update) is restricted to loading files that consist of so-called executables (those with the extent EXE), help files (those with the extent HLP), and library and other relevant system files (which are generally placed in the Windows System directory); the latter consist of files that have extents such as DLL, OCX, VXD, and VBX. Of all these, the only files that you will need to be aware during

installation are EXE and HLP files; that is, those with these extents. See Appendix A for a detailed list.

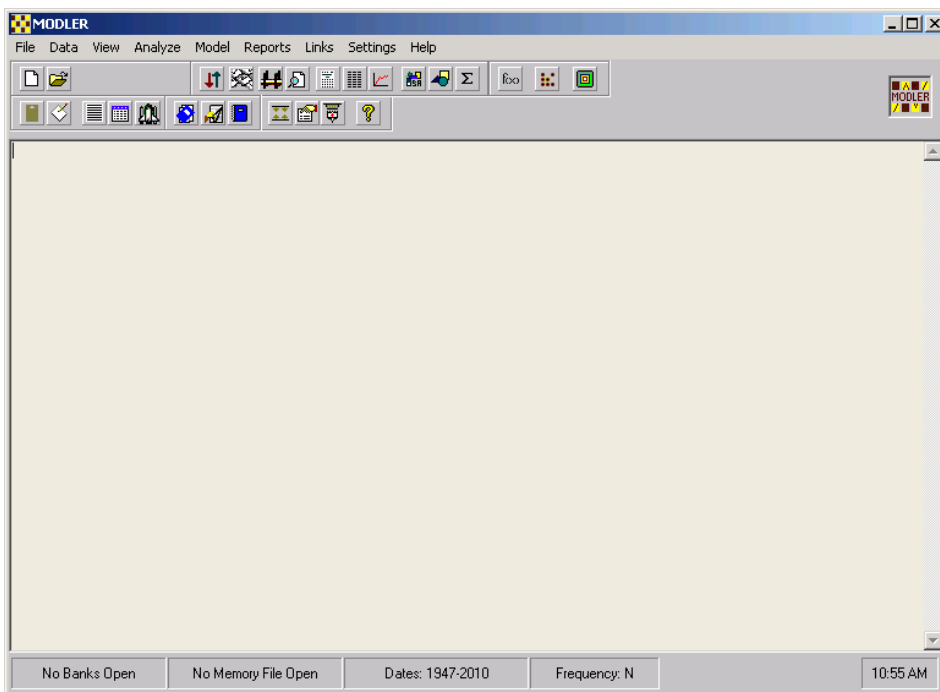
However, as indicated, there are also files that take the form of demonstration data banks, macro files, plot files, table templates, and text files that are provided with MODLER in order to help you get started; together with the EXE and HLP files, these may be installed in the program directory that you specify explicitly or implicitly when you press the installation button of Figure 2. You can avoid overwrites of any of these by making sure to save anything in that directory prior to the installation or subsequent updates. Other configuration files, such as MODLER.INI and PROJECT.INI, which are described later, do not appear either in the Program directory or among the MODLER executables, but instead are created or modified by MODLER during the configuration process that is discussed below.

You should also be aware that any installation of a Windows program will usually involve copying some files to the Windows System directory, as has been mentioned in passing. Sometimes, particularly if you are installing a program that was created some years ago, a message will appear indicating that a newer copy of some file about to be copied is already in the relevant Windows directory. It is ordinarily a very good idea to preserve the newer copy, but in this case you probably should contact MODLER technical support for advice. A list of the files ordinarily copied to the System directory is provided in Appendix B of the present guide.

At this stage of the installation process, MODLER is ready to use. However, unless you have used a Windows version before, you will not yet have specified exactly where your data banks and other files are located, beyond having possibly determined the Home directory. You may in addition wish to copy demonstration macros and data bank(s) installed with MODLER into a different directory than where they were placed by default. If you installed MODLER from a CDROM, it is also a good idea at this point to use Windows Explorer to inspect the directories on this disk, which contain demonstration macro files, the complete User Guide in PDF format, and other files. The *MODLER User Guide* is provided as a set of PDF files, each of which corresponds to a chapter of the guide. From time-to-time, updated versions of these chapters will be published at the [www.modler.com](http://www.modler.com) website and can always be downloaded from there. There are also two workbooks, referenced on the **Learning Tools** page of this website, the first of which is described there as *A Guide to Klein Model I* and the second *A Guide to the Godley-Lavoie Models*. The Klein Model I guide describes step by step the estimation and use of a small, historically important macroeconomic model. The Godley-Lavoie Model Guide is a companion to the book *Monetary Economics*, authored by Wynne Godley and Marc Lavoie that describes step by step the creation of a progression of Post-Keynesian theoretical models. In addition, a relevant book, *The Practice of Econometric Theory*, by Charles G. Renfro, has recently been published by Springer. It can be obtained from Amazon and other booksellers and it describes comparatively the various OLS misspecification tests offered by MODLER and each of the other econometric software packages currently available.

## Configuring MODLER for Use

If you now execute MODLER you will see the initial program screen, an example of which is displayed in Figure 6. Notice the status bar at the bottom of the display, which indicates that neither banks nor the Memoryfile are open, that the dates are implicitly set from 1947 to the year 2010, but that the observation frequency is unspecified, and that it is mid-morning. Near the top of the display is a menu bar that on the far right has the word **Help**.

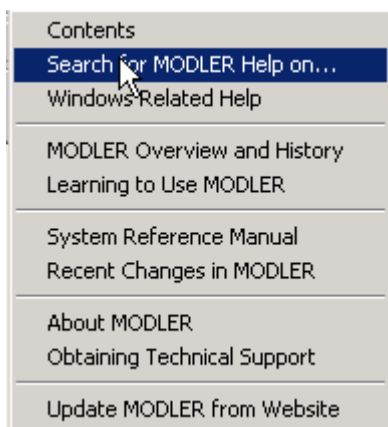


**Figure 6. Opening Screen, MODLER for Windows**

Possibly the best way to prepare to execute MODLER is first to use Windows Explorer or other file management program to view the files that were copied during installation to the directory you specified as the Program Directory. Among these, the MODLER for Windows executable file is named MODWIN.EXE and you can easily recognize it from its file icon located in this Program Directory, which looks like that also shown in the upper right hand corner of the Figure 6 display. If you right click with your mouse on the MODWIN.EXE file icon, you will then be able to create a “shortcut”, which you can then copy to your desktop or other folder from which you might wish to execute the program in the future. If you then double click either on this icon or a shortcut, MODLER should then execute.

Once MODLER is in execution, it might initially useful to click on the menu element **Help**, which reveals the help options, as shown below in Figure 7. In addition to the relatively standard first three items (Contents, Search for Help On., and Using Help),

notice the entries **Learning to Use MODLER** and **Obtaining Technical Support**. The first of these provides an overview description of a number of MODLER conventions and facilities; furthermore, all the Help topics, including this one, can be sent to your printer (assuming that you have a printer attached) and thus converted to hard copy. If you click on **Obtaining Technical Support**, you will see telephone numbers and addresses (including email) that will provide you with technical support as and when you need it. You can see also that it is optionally possible to download MODLER updates, although this particular menu element actually refers to the so-called “Semi-automatic update facility” described later in this guide, not the automatic update facility mentioned earlier. In addition to general help facilities such as these, for particular operations you will find **Help** buttons on the various individual MODLER displays that will provide you with context specific help as you work.



**Figure 7. Help Options for MODLER**

### *Directories and Other Settings*

If alternatively, instead of **Help** on the main menu bar, you press **Settings** and then click on the subtopic **Directories**, your screen will display the form shown below as Figure 8. A possible difference between what is shown in Figure 8 and what your screen actually shows is that yours may display a different directory than C:\MODLER in each of the successive categories; for example, wherever C:\MODLER\ appears, your screen might show C:\MODDATA\. However, if you have not previously used MODLER for Windows, your display should be similar inasmuch as it will show a sequence of keyed subdirectories, each having as a main directory the directory you identified as the master Home Directory in Figure 3 above. The most recent versions of MODLER, particularly version 10.7 and later, automatically create and identify subdirectories for macro files, banks, and other such files during the initial installation as shown in Figure 8.

In general, as indicated earlier, you should *never* put your data banks, model, macro, plot, table and other work files into the Program Directory where MODWIN.EXE, other MODLER executables, and supplementary programs are installed. Instead, your personal

work files should be separately installed in one or more other directories. The principal reason was stated earlier. The Program Directory, including any subdirectories, is *subject to being overwritten arbitrarily whenever the MODLER program files are updated*. The effect of conflating the Program Directory and one or more data files directories could be the destruction of some of your working files, or alternatively the destruction of some files necessary for MODLER to operate properly.

However, it is legitimate to use a common directory for your work files, rather than a group of separated subdirectories per Figure 8. The question is the exact degree of separate organization you wish to enforce.

Category	Value
Project	No Specific Projects Established
Current Directory	C:\MODLER
Data Banks	C:\MODLER\BnkDir
Model Files	C:\MODLER\ModDir
Home Directory	C:\MODLER\HomDir
Macro Files	C:\MODLER\MacDir
Table Templates	C:\MODLER\TabDir
Word Processor	
Documents	C:\MODLER\DocDir
SpreadSheet Pgm	
Worksheets	C:\MODLER\WKS
Presentation Mgr	
PMgr Files	C:\MODLER\SHOWS
Internet Browser	
DownLoad To	C:\MODLER\HomDir
File Manager	C:\WINDOWS\Explorer.Exe
Notes Editor	Notepad.Exe
Calculator	

**Figure 8. Directory Settings Form**

### Configuring External Programs for use with MODLER

In general, the **Directories Form** found under **Settings** has two related, but distinct roles. Focus initially on the bottom half of the form shown in Figure 8. This section of

the form allows you to specify which word processor, spreadsheet program, file manager, Internet browser, calculator program, and notes editor you might wish to use to perform MODLER-related operations pertinent to these functions; these specifications also include, for the word processor, spreadsheet, presentation manager, and Internet browser programs, the default directories for their associated files.

Look at the bottom part of the form. You will see immediately that it contains text spaces reserved for the paths and executable file names of the various programs that can be used in conjunction with MODLER. For example, in the case of a Word Processor, what MODLER expects to be placed in the associated textbox is an entry something like:

**C:\MSOFFICE\WINWORD\WINWORD.EXE**

where the last portion (WINWORD.EXE) provides the name of the program executable and the first (C:\MSOFFICE\WINWORD\) the path, or directory location, of this executable. The path will of course be specific to your machine and can occasionally change, so that if this occurs you may need to respecify it. Notice that, for the Word Processor, Presentation Manager, Spreadsheet programs and browser, additional default directories should be specified for documents, presentation manager (PMgr) files, worksheets and downloaded files respectively; these entries should each consist *only* of the path specification; for example:

**C:\MYDOCS**

without a trailing \. Notice also that all directory specifications and filenames *must* be expressed in the short form that all versions of Windows actually directly use – not in the long form that Windows 9.x and later versions of this operating system provide as indirect references. Furthermore, the directories specified must *already exist* for MODLER to allow you to include them here inasmuch as they are intended to indicate the current location of *existing* files. Of course, the **Browse** button can be used to discover these directories.

You can see from Figure 8 that MODLER also allows you to specify a default Internet Browser, a File Manager, and a Notes Editor. The Internet Browser is specified in much the same way as the Word Processor and Spreadsheet, including the identification of the default browser's download directory where MODLER should look for Internet files. However the File Manager and Notes Editor are handled differently. As Figure 8 implies, MODLER on its own will initially select what it "thinks" is the most advanced file manager for your particular operating system, but if you wish you can choose another, including a third party file manager. Similarly, MODLER initially selects Notepad.Exe for your working notes, but you can change this to Wordpad or some other simple editor if you wish. Incidentally, a relevant distinction between the Word Processor and the Notes Editor is essentially the speed with which they can be invoked and the degree of complexity of operation; in general, both Notepad and Wordpad are

much simpler programs, much more ready to be put into a corner of your screen in order to make notes as you work, than are much more comprehensive programs such as WordPro, Word, or WordPerfect. If you go to the **Accessories** component of the Windows “All Programs” list, displayed by pressing Start (on Windows 95 and later operating systems), you can easily discover the location of either Notepad or Wordpad.

However, *if you make no changes to the Directories screen* (in the case of MODLER for Windows version 10.7, Build 20 or later) and if you use only Microsoft Office programs for word processing, spreadsheets, and presentations, by the second time you execute MODLER, you will discover that it will already have determined the location of these and automatically entered them as default programs for you. Thus you may find that the Directories screen then looks more like that shown in Figure 9. You can, at this stage or later, always make additional modifications.

Setting	Value
Project	No Specific Projects Established
Current Directory	C:\MODLER
Data Banks	C:\MODLER\BANKS
Model Files	C:\MODLER\MODELS
Home Directory	C:\MODLER
Macro Files	C:\MODLER
Table Templates	C:\MODLER
Word Processor	C:\PROGRA~1\MSOFFI~2\Office\WINW
Documents	C:\MODLER\DOCS
SpreadSheet Pgm	C:\PROGRA~1\MSOFFI~2\Office\EXCEL
Worksheets	C:\MODLER\WKS
Presentation Mgr	C:\PROGRA~1\MSOFFI~2\Office\POWE
PMgr Files	C:\MODLER\SHOWS
Internet Browser	C:\PROGRA~1\INTERN~1\EXPLORE.E
DownLoad To	C:\MODLER
File Manager	C:\WINDOWS\Explorer.Exe
Notes Editor	Notepad.Exe
Calculator	C:\WINDOWS\system32\Calc.EXE

**Figure 9. Fully configured Directory Settings Form**

Incidentally, notice in Figure 9 the use of the 8 character form of the directory name (PROGRA~1, WINDOW~1, ACCESS~1); these are the actual directory names and MODLER requires their use; once you know the location of any alternative Notes Editor you can use the **Browse** button to select it.

Finally, as shown in Figures 8 and 9, MODLER allows you to specify a calculator utility program, which can be accessed from the Links menu item on appropriate

MODLER screens. Windows incorporates a default calculator utility, which these days can be displayed in either of two modes: standard or scientific. In Figure 9, the standard calculator utility (CALC.EXE) is specified as located in the SYSTEM32 subdirectory of the WINDOWS directory; this location is common when using Windows 2000 and later operating systems, but not Windows 9.x.

## Use Separate Program, Download and Other Files Directories

When setting up your working files directories, an important consideration is the interrelationships among files. For example, if you are going to be using a spreadsheet program in order to import and export data to and from MODLER data banks, it may be helpful for the spreadsheet files directory to be the same as that for data banks. You also need to consider exactly how you wish to work: do you want your data banks, models, macro files, table files, and the like to be in the same directory, or in separate directories? You can create new directories as you go, copying and organizing files at any stage, thus it is not critically important how you begin, but if you know initially that you would prefer to have different types of files in different directories, or sub-directories, then you might as well start this way.

However, as indicated earlier, a very important continuing consideration is that you should *never* combine the directories for your program files—the executable files that comprise the MODLER program—and your working files, such as data banks, models, macro files and so on. The Program Directory should contain the EXE files distributed with MODLER, as well as the help file, MODWIN.HLP, and generally should be left alone: if you overwrite or inadvertently delete any of these particular files, MODLER will either not work or will work badly, possibly causing you all sorts of problems.

Similarly, you should *not* specify as your download directory the same directory as that for program files, and the reason is that if you download a new copy of MODLER using the automatic update procedures the update files are presumed to be downloaded to the Program Directory and the effect will be to overwrite existing EXE files that could be in that directory. If the only files in this directory are those originally written to it by MODLER, this overwriting will be done appropriately. Details concerning the automatic updating process can be found by clicking on **Help** on the main MODLER menu, then selecting **Contents**, and finally choosing “Updating Your Copy of MODLER.” Alternatively, this subject is considered in some detail below.

### *Alternate Ways to Organize MODLER-related Files*

Look once again at the form shown in Figures 8 or 9; its top half obviously identifies the location of various types of MODLER working files – this form therefore provides you with the capability to organize your work in a variety of different ways. A fundamental choice, when specifying the directories to use with MODLER, is between organizing your work into separate “projects” or not. For instance, if you wish to work

with two or more distinct models, each of which relates to a separate group of data banks and other files, organization into two or more distinct projects may make sense. Furthermore, for each individual project, not only can you separately define the directories to use for each type of file, but it is even possible to use different word processors, spreadsheet programs, presentation managers, notes editors, and browsers. Look at Directory Settings Form. You will see near the top of the form the word **Project**, followed by a dropdown textbox that initially states “No Specific Projects Established.” As explained below, this textbox can be used to establish two or more separate projects.

However, especially if your needs are likely to be simple, you can initially ignore this option. Moreover, later, should you feel that you need to organize your work into distinct projects, you can come back and do this. That is, do not rush to use this facility just because it is there, inasmuch as a few pitfalls potentially lie in wait. For instance, once you have begun to organize your work along project lines it can be difficult to simplify again, although there *is* a brute force method to achieve this, namely deleting the file MODLER.INI from the main Windows directory. The effect will be to re-initialize all elements of the Directories form and wipe out all central references to projects – but if you take this drastic step, you should therefore first backup MODLER.INI. With this in mind, it is useful to begin by considering a simpler (single, unnamed project) approach first.

### *Simply Specifying Directories*

The working files associated with MODLER consist of data banks, model files, and macro files, to cite only the major categories. As mentioned earlier, one option is simply to put all these files into a given directory or folder. The alternative, which MODLER supports by default (as indicated by the displays in Figures 8 and 9), is to specify a particular subdirectory for data banks, another for model files, and yet another for macros. Or, as a third option, independent directories can be established for different types of files. However, you should also be aware that, in addition to files that you will consciously create, there are a variety of files that MODLER itself creates, more or less automatically, for special purposes. These files will each be located in one of your working files directories. For example, the Memory File is automatically created whenever the program needs a place to put a transformation or generated variable. In addition, there are more esoteric temporary files that MODLER creates and uses as needed.

MODLER usually writes these automatically created files into what is called the *Home Directory*. A usual characteristic of such a directory is that it generally does not change during a session, no matter how much you move around your hard disk. In contrast, when using a DOS version of MODLER, the startup directory was automatically adopted as the default Home Directory for that session and this could change from session to session. Today, with the Windows version, the Home Directory is explicitly set and will therefore generally not change. But notice that even now, even though called by a particular name, this directory is not necessarily a physically separate

and distinct directory: instead, it is *conceptually* any directory that MODLER uses in this particular way. It is only a separate directory when *you* uniquely specify a particular directory to be the Home Directory. And it only changes during a session or between sessions if you explicitly change it. Once determined, you should change it only infrequently, if at all, and then only after very careful thought.

But be aware that these protocols are simply organizing principles. It is up to you to put them into effect. One option is to use a single data file directory for everything, creating subdirectories for the several specific file types. If you do nothing, this is the way MODLER will organize your work and, generally, the master directory that the program will choose will be the directory you selected when you first installed the program. MODLER is designed to operate in a make-do fashion in whatever environment it finds itself, but this is not a recommendation that you should necessarily leave your destiny to the caprices of a machine.

Assuming that you wish to be captain of your fate, begin your first session by clicking **Settings** on the main menu of the Central Control screen and then **Directories**. You will probably find that MODLER has used a master directory and related subdirectories, as just described and as illustrated in Figures 8 and 9. However, whatever convention you adopt, you should be aware that the Directories Form exhibits an implicit organization by file type. Consider the categories:

- Current Directory
- Data Banks
- Model Files
- Home Directory
- Macro Files
- Table Templates

that the top half of the form identifies. As mentioned earlier, at the very top, above this list, will be the word **Project** with a drop-down textbox to the right; for the moment, continue to ignore it. The files types associated with MODLER are usually categorized by extent, and on this basis they actually consist of 15 different types of files, not counting various data transfer files that may be used to import data. However, at this stage, many of these file types can be ignored.

Obviously, if you use MODLER intensively, leaving all these files together in a single directory might soon yield confusion. Thus the default way to organize your work is to establish a parent directory at installation and then permit MODLER to create a set of subdirectories that identify the types of files. Thereafter, at the end of your first MODLER session, *as you exit normally*, the program will create a textfile called MODLER.INI, which will be located in the main Windows directory. Subsequently, when you begin each following session, MODLER will immediately load the specifications from MODLER.INI so as to re-establish this structure. MODLER.INI itself will ordinarily be located in the \Windows directory of your main hard drive.

If, when working interactively, you use MODLER commands to open data banks, run macros, attach models, and so on, a disadvantage of this organization may be that in some cases you will need to specify path directories as well as filenames. However, if you use the menus, or if you issue command words followed by <Enter> (so that MODLER automatically displays available files of the relevant type), this organization may simplify your work over time.

### *Organizing Your Work By Project*

The single project approach, with individual work files separated into subdirectories, seems to work for most people. In contrast, if your work involves the use of distinct sets of files at distinct times, with little or no overlapping use, then organizing your work by project may make sense. Furthermore, should you be interested in considering a projects approach in this type of context, a much more extensive discussion of the MODLER projects facilities than provided here can be found in the workbook *Building and Using Theoretically Defined Operative Economic Models: The Godley-Lavoie Models as Examples*. This workbook can be accessed from the **Learning Tools** page of the [www.modler.com](http://www.modler.com) website.

The present discussion is intended simply to outline the Projects option. If you click on the dropdown **Project** textbox at the top of the Directories Form, you will immediately see that it has one entry <Add New Project>. If you make this choice an Input Box will appear, asking you to provide the name of a Project, and giving you space for as many as 80 characters. If and when you provide a name and click OK, two things will happen. First, a Project of that name will be created and, second, MODLER will place in the project's Home Directory a file it creates; this file is always named PROJECT.INI. At the same time, MODLER will amend the MODLER.INI file (found in your main Windows directory) to include both the project name and the path for the just-mentioned Project Home Directory. As you add projects, the PROJECTS section of the MODLER.INI file will grow, and the designated Home Directory for each project will receive a PROJECTS.INI file. In the future, as appropriate, these files will be dynamically updated whenever you make changes using the Directories Form.

Actually, during the project creation process, nothing permanent happens until you both identify the project and click the OK button at the bottom of the Directories Form. Once you have provided a project name, and before you click that OK button, you therefore have a chance to set up your individual directories appropriately, including the Home Directory. Or, you can set up the directories first, and then click OK. If you are curious, you can inspect both the MODLER.INI file and the PROJECT.INI file, once you have crossed this Rubicon. These are both simple text files, but be careful not to change them unintentionally. It also might be a good idea, periodically, to save backup copies of these files, carefully organized of course, since the name of the PROJECT.INI file is common across projects; what prime facie differentiates one project's INI file from that of another is *only the directory in which each is located*.

Notice that once you start working, whenever you open a project and then change some directory or program specification in the Directories Form, these changes will be recorded in the MODLER.INI file and the appropriate PROJECT.INI file. As mentioned earlier, these files are dynamically updated. If you wish to change the name of a project, you need only to change its name in the dropdown text box at the top of the Directories Form, and then click OK at the bottom. However, do not be misled by this simplicity into thinking that these INI files control the actual, physical organization of directories on your machine. They do not: they simply point to existing directories (and programs) and provide a conceptual organizing structure. When you change a project's specifications you do *not* affect the actual directory(ies) involved. It is also true that if and when you arbitrarily change the actual directory structure of your machine (or, in a network context, change the organization of the network) affecting your projects, you will usually need to make the appropriate changes in your project files, using the Directories Form.

To delete a particular project, by the way, simply delete the project name in the dropdown **Project** text box on the Directories Form. Then immediately press the OK button at the bottom of the form. MODLER will respond by asking you to confirm that you wish to delete that project. If you answer *Yes* the deletion will occur provisionally, although no files will yet be affected. It is then best to exit from MODLER immediately and re-start the program. What occurs during the project delete operation is that the list of projects found in MODLER.INI at the start of the session is re-written to omit the deleted project, but this re-writing of MODLER.INI takes place only when the session ends.

As a fail-safe, if you delete a project, MODLER *neither deletes nor changes any files other than MODLER.INI*. In particular, the PROJECT.INI file in the Home Directory of the deleted project is *not* changed in any way. Consequently, if you previously saved the MODLER.INI file from the main Windows directory, *after exiting MODLER*, you can actually undo the effects of the deletion simply by copying this saved MODLER.INI into the main Windows directory over top the new one generated as the result of the deletion.

The conventions just described are sufficiently detailed to be difficult to absorb in a few moments, so that the purpose of this description is simply to indicate certain of the organizing principles. As indicated earlier, a better introduction to the topic can be found in the workbook *Building and Using Theoretically Defined Operative Economic Models: The Godley-Lavoie Models as Examples*, which because its subject is a progression of successively more elaborate models provides a good practical example of the issues and considerations associated with a project organization of your work.

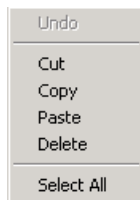
## **Configuring Windows for MODLER**

Generally, you need not configure Windows in any particular way in order to suit MODLER. However, the program expects to be able to send output to a printer, and to use a browser that it “knows” is connected to the Internet. MODLER may otherwise depend upon the Windows facilities that are available and, to some degree, even other unrelated programs on your machine. For instance, a potentially useful third party add-in

facility is the SnagIt program (URL: <http://www.techsmith.com>), which permits you to capture MODLER graphics displays and then immediately create from them JPEG or GIF files. MODLER itself can capture its plots and write these to the Clipboard or as BMP files, but it does not otherwise create storable graphics files. This limitation (at least in the absence of SnagIt or other such program) can be construed as a backward step: in contrast, the DOS version of MODLER optionally generates Hewlett-Packard plotter files (HPGL files), but inasmuch as Windows word processor packages tend not to support the HPGL language effectively, MODLER for Windows also does not support it.

You may in fact need to re-configure Windows slightly to get the most out of MODLER. Other Windows facilities and programs that MODLER for Windows utilizes include the Clipboard viewer (CLIPBRD.EXE), which can be obtained in versions that support both network use and single user computers. In addition, the MSINFO system information utility is not always present on every computer, even though it *is* a Microsoft Windows utility (that when present is usually to be found as: `\Windows\MSApps\MSInfo\MSInfo.EXE`). MSINFO provides a substantial amount of information about the hardware and software environment in which both the operating system and MODLER find themselves.

Some Windows conventions automatically present themselves and can be adopted without re-configuration. An extremely helpful in-built Windows facility, beginning with Windows 95, is the floating edit menu item that appears when you click on the right mouse button whenever the cursor is pointing at text or a textbox. An example is shown in Figure 10.



**Figure 10. Textbox Editing Menu**

This edit menu can be used quite generally to capture text and paste that text elsewhere, both within MODLER for Windows and between it and virtually any external program, including an Internet Browser. In particular, it is possible to capture an item of data displayed on a Web page and paste it into a MODLER data update field. Similarly, it is possible to capture, for example, a MODLER regression display and then paste it into a word processor document. Do not ignore such implicitly provided facilities.

## **MODLER Enhancement: The SnagIt Program**

The SnagIt program, mentioned earlier, is an unaffiliated third party product that can be downloaded from the [www.techsmith.com](http://www.techsmith.com) website. MODLER itself allows you to capture plots and other displays to your Clipboard, from which they can be pasted into documents, among other options. MODLER can also generate Windows metafiles directly. However, if you are interested in putting your work up on a website, making presentations, or generating a large number of image files of various types for some other particular reason, then SnagIt, in conjunction with MODLER, will give you this capability.

### ***SnagIt Capabilities***

SnagIt is an easy-to-use Windows desktop utility that provides users with high-quality, controlled image captures. Furthermore, SnagIt's features are designed for quick, intuitive capture of all or part of any image currently on the computer screen. In addition, the process involves a single-step, one-button capture. Or you can take advantage of its DDE and MAPI support, providing the ability to capture full-screen DOS windows or to perform autonaming and Active Capture.

### ***Program Features***

SnagIt capabilities include:

**Image Capture** - Capture the screen, a window or an arbitrary rectangle at the touch of the hot key. Special support for capturing menus and repeated captures of fixed-sized images, such as icons and buttons.

**Video Capture** - Capture desktop animation sequences, including video and user interface activities. Optionally add a voice-over during capture. Great for training, multimedia clips and user help documentation.

**Text Conversion** - Convert most text blocks on the Windows desktop to machine readable text, even where Cut and Paste does not work. Examples include text blocks in Encarta, the directory and files windows of the Windows 95 File Explorer, and the message header windows in the Exchange Client. This is an essential productivity tool. This feature is available for Windows versions earlier than Windows 95.

**Active Capture™** - Capture the entire contents of scrolling windows. Ideal for capturing web pages and unprintable lists. Works with both Image Capture and Text Conversion.

**Capture Destinations** - SnagIt sends the captured image to the printer, the clipboard, a graphic file or as an e-mail attachment, all at the press of a simple "hotkey".

**Preview Window** - Preview the captured image before saving or printing.

**Thumbnail Browser** - Includes a full featured browser tool to easily manage and manipulate image, text, and AVI files.

**Image Processing** - Supports professional quality image processing effects and controls (e.g. rotate, flip, shear, solarize, sharpen, blur, mosaic, emboss, underlay, edge detection, invert, brightness, contrast, hue, saturation, histogram equalize, etc.) Excellent for working with photographic images.

**Graphic File Output** - File formats supported include GIF, JPEG, TIF, PCX, PNG, BMP and AVI. SnagIt creates Internet-ready files, offering interlaced GIF and progressive JPEG, plus Transparent GIF support. Over a dozen other formats are also supported.

**Scale Image** - Increase or decrease the size of the captured image. Smooth scaling for preserving detail and readability of text and screen shots.

**DOS Screen Capture** - Capture DOS program screens that run under Windows.

**Capture Mouse Cursor** - Capture the image of any mouse cursor. You cannot do this with the Windows PrintScreen button!

**Color Reduction** - SnagIt can perform any level of color reduction, 1-bit to 32-bit, with many dithering and palette options. Grayscale and halftone options are also available.

**Color Substitution** - Replace any color in the captured image. Great for eliminating dark backgrounds in captured images.

**Mail Output** - Automatically send captured images from any MAPI enabled e-mail client.

### *Installing SnagIt*

For other information, contact:

Techsmith Corporation  
P.O. Box 4758  
East Lansing, MI 48826-4758  
Fax: (517)333-1888  
Phone:(517)333-2100

# Updating MODLER for Windows

For users who annually subscribe to AlphaPlus support, one of the benefits is the ability to receive program updates and improvements, as well as ongoing email or telephone-based technical support. MODLER updates are issued periodically, either to repair serious problems that may be discovered, or simply to make new facilities available. Approximately once per year, an update is issued in the form of a re-installation: a major update of MODLER that is intended to be installed almost as if it were a new program. From time to time, less comprehensive maintenance updates are released. As noted earlier, a re-installation (or an installation) will generally leave undisturbed the files you create with MODLER, such as data banks, Memory Files, macro files, table templates, and other explicitly created files. However, it may affect demonstration data banks, plot files, table templates, and macro files that are located in the Program Directory, which contains MODLER executable and related files, and that have the same names as those originally shipped with MODLER.

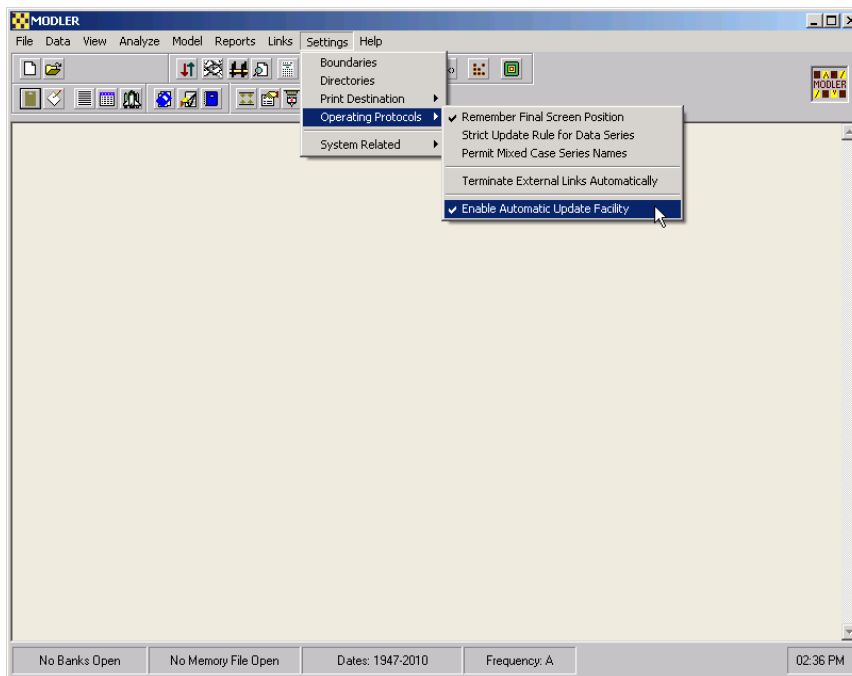
## Automatic MODLER Updates

Beginning with Build 26 of MODLER version 10.4, which was originally released at the end of January 2004, MODLER has had the capability to notify you automatically of the availability of an update to the version that you are currently using. However, for this notification to occur, there are two requirements. First, your machine must be connected to the Internet. Second, you must have previously configured MODLER to support this facility. Furthermore, if you began to use MODLER for Windows prior to 1 February 2004, you may need to request a special update inasmuch as this facility uses certain supplementary files not present in earlier versions of MODLER and not automatically downloaded from the MODLER website. Versions of MODLER published after this date not only permit you to enable automatic updating, but *also allow you to suspend this facility at any time* if, for some reason, you do not any longer wish to be notified each time a new version becomes available or if you simply wish to maintain a given copy of MODLER, preserving it from updates, except at times of your choosing.

You will in addition need to have implemented the **MS Soap 3.0** Toolkit described in Appendix C below, which can be downloaded at no charge from the URL given there; this toolkit is also supplied on the MODLER for Windows installation CDROM. As mentioned earlier, SOAP stands for *Simple Online Access Protocol* and its purpose is “to enable rich and automated Web services based on a shared and open Web infrastructure.” At the moment, SOAP has been adopted as a protocol for immediate use to support automatic MODLER updates. Ultimately, this facility will allow much more in the way of MODLER support facilities.

MODLER automatic updating is active *only* when your machine is connected to the Internet, either via a dial up connection or cable or other broadband connection. If you are *not* connected to the Internet when you begin a MODLER session, the automatic update facility will *not* work, irrespective of any other circumstances or MODLER settings. In general, this update facility will obviously work best — in terms of speed of operation — if you have a wired broadband connection to the Internet.

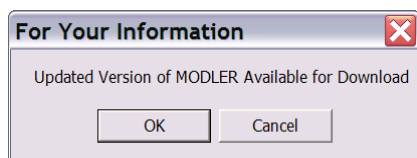
One indication that the copy of MODLER on your machine is capable of supporting automatic updates is the appearance among the Settings menu's Operating Protocols submenu of the element **Enable Automatic Update Facility**, as shown in Figure 11. Notice that the default setting is *disabled*: you will need to turn it on. When you first click on this element, a check mark will appear indicating that the automatic update facility is then enabled. You can verify that the option has been enabled by looking once again at the operating protocols elements. Click again on this element, if checked, and the result will be to disable this facility. In all cases, any change in setting that you make will take effect *when you next exit from MODLER and restart the program*. The change in setting does *not* take effect from the moment you check or uncheck this element.



**Figure 11. Option to Enable the Automatic Update Facility**

Generally what occurs when you execute MODLER, if this option is enabled, is that MODLER will compare the dates of the updateable MODLER files on your machine with the dates of corresponding files on the MODLER website. If any of the website resident files are of a later date of creation than the corresponding file on your machine, the message shown in Figure 12, below, will immediately appear. As is evident, at this point you can choose or not choose to update your current version of MODLER.

Irrespective of anything else you do, or do not do, MODLER files on your machine will *not* be updated, *until and unless* you click the OK button on this message box. The MODLER automatic update facility is intentionally implemented in a way that gives you control of its operation. In all cases, the *only* files that will be updated are the MODLER program files. Data banks, models, and other files that you have created will be left undisturbed, except that, as noted elsewhere in this getting started and maintenance guide, you should *never put any of your data banks, model files, macros, table templates, plot control files, or any other files that you create in the same directory (folder) as the MODWIN.EXE or MODCI.DLL files. In particular, demonstration macro files and other files with names the same as those distributed with MODLER, in the original installation, are subject to being overwritten. So are any other files that you choose to give the same name as the MODLER program or supporting files installed with MODLER, particularly if these appear in the same directories (folders) as MODWIN.EXE or MODCI.DLL.*



**Figure 12. Update Verification Dialog**

If you choose to update your copy of MODLER, the only files that will be replaced are specifically those older than the corresponding files on the website. After such replacement, you will be told that the update process has completed and also if you need to restart MODLER in order for the update to take effect. Occasionally, you may see an additional message to the effect that the new version is ready to use. At this point, except to restart MODLER, nothing further needs to be done.

### ***Windows Error Messages Following Automatic Updates***

Usually, the automatic update process works both quickly and flawlessly. However, in some circumstances – particularly in the case of the Windows Vista operating system – once an automatic update has been made, a Windows Runtime error can be encountered. Most frequently, the error reported is “Runtime Error 75: Path/File Access Error.” Such a message is a *Windows* error message and is *not* internal to MODLER; MODLER error messages are *never* numeric in form. In general this runtime error implies that during the update process, the update program, or some other program being executed simultaneously during the update does not have rights to access a particular file (or that for some other reason it simply cannot access the file), including copying a new version of a file over top an older version of that file.

The cause can be that the user executing the program that results in the error message does not have Administrator status. This status is generally necessary in order to copy files to any Windows system or other protected directory. In particular, this error can

occur when a program is attempting to access a network file to which it does not have “proper” access, either because of a network privileges or because the program is being blocked for some other reason. In the latter case, the error can be the result of the particular file currently being used by another program or if the accessed file is read-only and an attempt is made to write to it. The Windows warning that is commonly encountered during installations and updates of all types, to the effect that the user should first exit from all running programs, reflects the generality of the problem of conflicts between programs involving the use of “system” and other operating files.

The Runtime Error 75 problem can also occur if the particular computer is subject to a virus, a “Trojan Horse” program, spyware, or a worm. Any such “malware” programs are capable of modifying operating system settings, leading to various Windows “Runtime Errors.”

Runtime Error 75 and other runtime errors are sometimes difficult to resolve, in part because they can occur for any of several reasons. Possibly the first reaction to any such error should be to use an anti-virus and/or anti-spyware program in order to verify that the computer in question is clear of such malware programs. Once this check has been made, there are several programs offered on the Internet (search on “Runtime Error 75”) that claim to be able to solve this runtime error, generally by appropriately re-configuring Windows. Of course, the user’s status also needs to be determined, in particular whether he or she has the necessary permissions to make changes to system files, or files that are located in the C:\Windows directory and/or subdirectory during installations or updates.

Generally, except in the case of a malware infected machine, there is no known instance of a Runtime Error 75 being encountered when the machine being used is a single user machine not part of a local area network. The reason is that users of single user, not-networked, machines ordinarily have Administrator status by default, whether they are conscious of this status or not. In contrast, this runtime error is most frequently encountered when the machine is part of a local area network and the user does not have Administrator status.

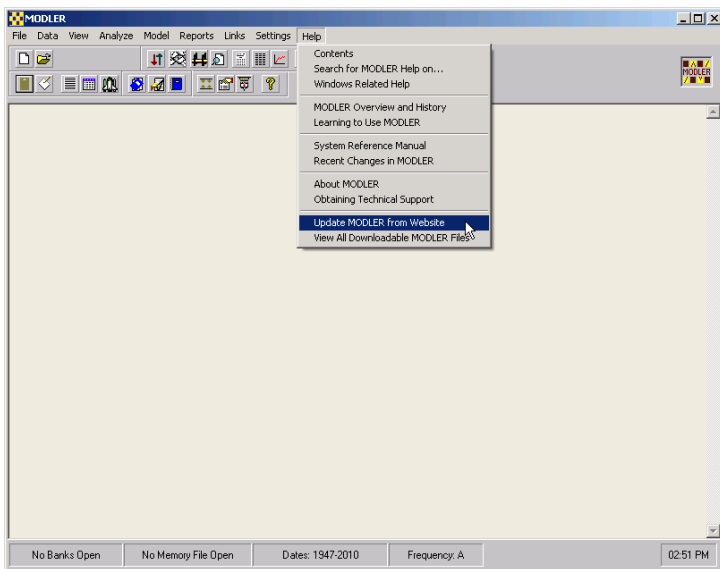
## **Semi-Automatic MODLER Updates**

Since the first release of MODLER version 10.4, which occurred in February 2002, MODLER has supported what might be called *semi-automatic updating* using downloads from the website [www.modler.com](http://www.modler.com). This facility involves downloading a self-extracting file called UPDATE.EXE, which contains updates of MODLER program and related files — particularly the text file CHANGES.TXT. Once this self-extracting file has been downloaded, following the instructions below, you will need to extract the updated files from it and use these to replace the corresponding files on your machine.

Obviously, this updating facility allows you to monitor closely the updating of MODLER on your machine, but of course it also requires that you understand exactly

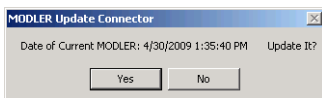
where these files should be placed and what other files they should overwrite, not to mention that you will therefore take responsibility for insuring that these operations are performed each time you download the file UPDATE.EXE. The download process itself involves the use of the FTP (File Transfer Protocol) facility that is supported by all browsers and virtually all professionally managed websites.

Such updates begin during a MODLER session. To start, simply Click on **Help** from the MODLER Central Control screen, as illustrated in Figure 13. As shown, a dropdown menu list will appear, the pertinent item of which is “Update MODLER from Website.” Click on this item.



**Figure 13. MODLER Help Choices**

MODLER will respond by issuing a message like that shown in Figure 14. Notice that it states the creation date of the copy of MODLER currently on your machine, specifically the MODC1.DLL file, thus allowing you to judge whether or not an update is necessary. However, the choice is yours. If you click **Yes** you will be allowed to proceed, even if an “update” does nothing more than re-load your present copy. Moreover, so long as your current version is 10.4 or later, it is generally possible to update from your current version to *any* later version. Ordinarily you do not need to download interim versions; in the very exceptional instance this would not be true, you will be notified early in the download process.



**Figure 14. Initial MODLER Response to Update Request**

If you click the **Yes** button, the next response will depend upon your choice of browser, assuming of course that you have previously selected a default browser.

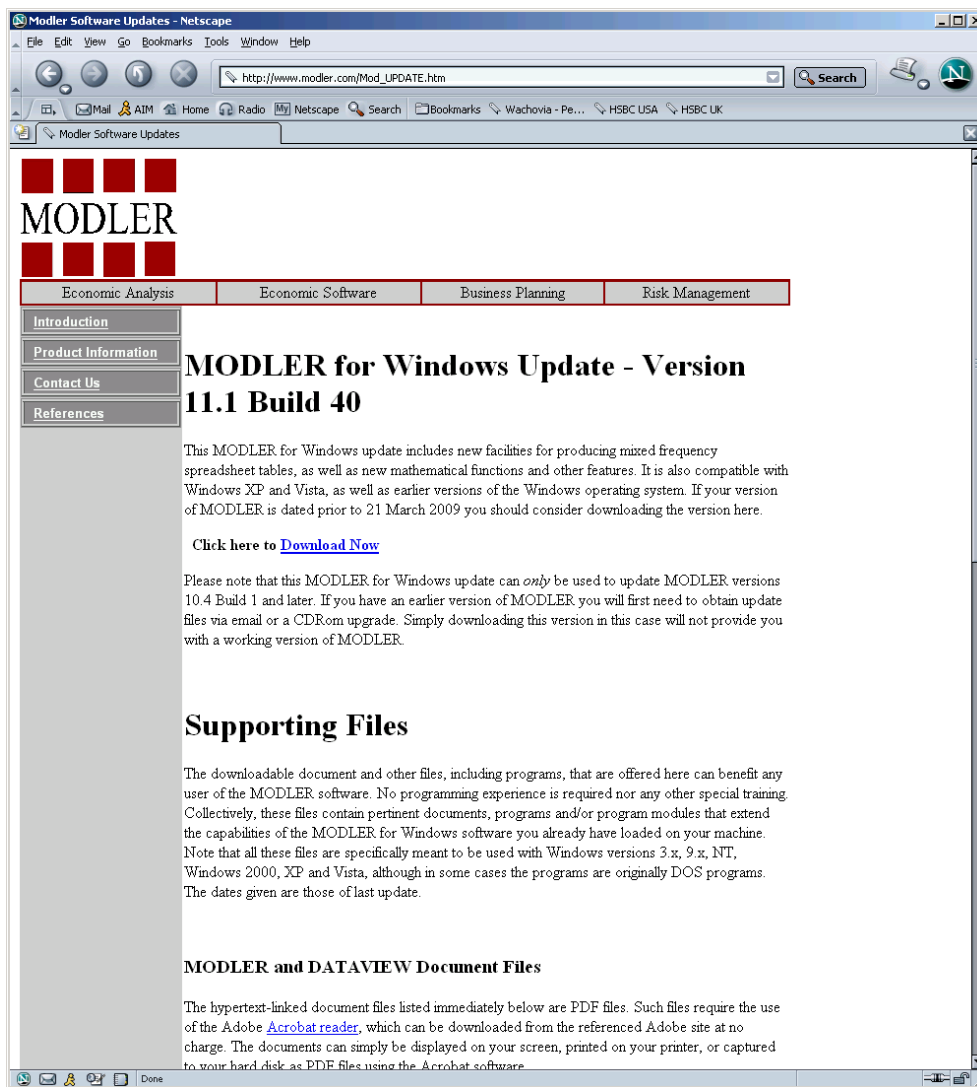
### *Netscape Browser-based Download*

If your default browser is Netscape, the usual Netscape opening screen should appear essentially as shown below in Figure 15. This screen identifies the version of MODLER, including the build, presently available for download, stating also the date that this version first became available. If the date of your current version, as illustrated by Figure 14 above, is later than this date then obviously you might not wish to update the program. However, even in this case, you might instead wish to download one or more of the other program files, or the other MODLER document or supporting files that are described as you scroll down this Web page. Once the MODLER update screen, shown in Figure 15, has been displayed, you can choose among several alternatives. In particular, you can variously choose to update one or more programs, or display MODLER-related documents, downloading whichever of these you wish.

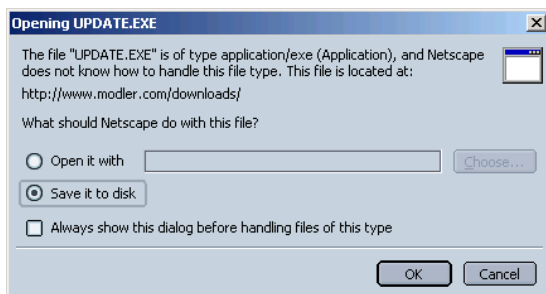
Whenever you select a program or self-extracting file to download, once you have made the choice by clicking its identifier on the Web page, you may immediately see in the middle of the screen a small dialogue box like that shown in Figure 16. Notwithstanding its title, which is a Netscape quirk, this form indicates that you are proposing to download an executable file. The appropriate choice among its buttons is to click the **Save File** button, at which point the form shown in Figure 17 should appear.

Looking at Figure 17, you will see that the textbox at the top of this form gives the name of the directory that Netscape proposes to use for the download, here shown as C:\TEMP. Your machine will presumably show some other directory. However, *for the update to succeed, the directory used must be the same as your MODLER default download directory, as specified in your current Directory Settings*. If it is not, and you continue the download, the MODLER Update Connector program will be unable to find the downloaded files once they have been downloaded. Therefore, before clicking the Save button, make sure the directory settings match and if they do not, then use the facilities of this form to change the download directory so that they do.

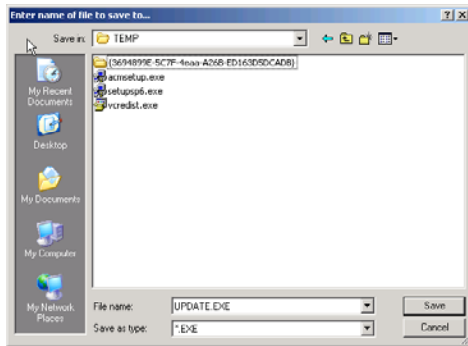
It is generally important that you properly designate both the default download directory for MODLER, in addition to choosing a default word processor, spreadsheet program and other such programs, as shown above in Figures 8 and 9 and described in the surrounding text there. If you have not yet done all this, you would be well advised to stop and do it now, before you attempt to update MODLER. Generally, the update process does not make use of your default spreadsheet program, or your default presentation manager, but it may make use of either your default word processing program or your notes editor, in order to provide you with supplementary information, especially once the update download has been accomplished.



**Figure 15. Initial Netscape MODLER Update Screen**

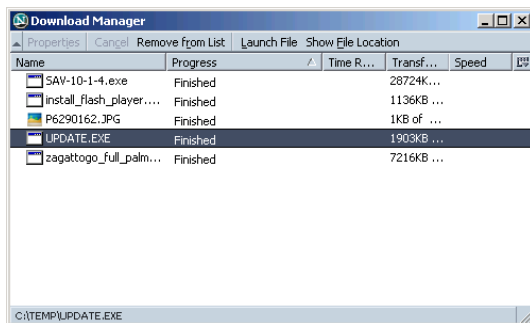


**Figure 16. Netscape File Download Dialog box**



**Figure 17. Download Directory Selector Screen**

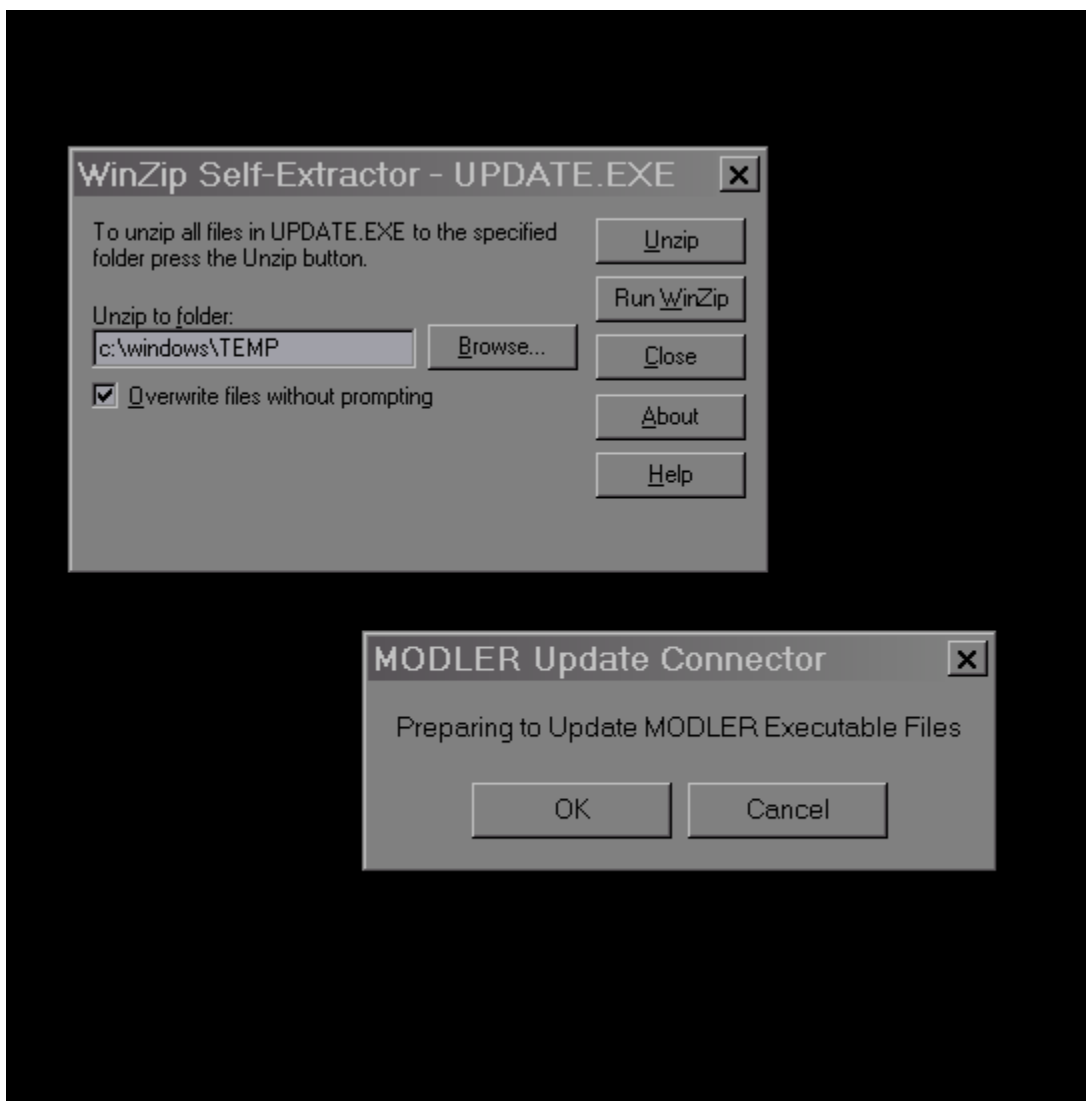
Once you have clicked the **Save** button, the next form that should appear is the one shown in Figure 18. This form obviously monitors the download, letting you know the state of the download and how much additional time it is likely to take.



**Figure 18. Download Monitor Form**

At the end of the download, when the form shown in Figure 18 disappears, you will be looking again at the Netscape screen, as illustrated in Figure 15. You can then choose another object to download, or you can quit Netscape, closing the screen. When you close Netscape, you will be returned to the MODLER environment.

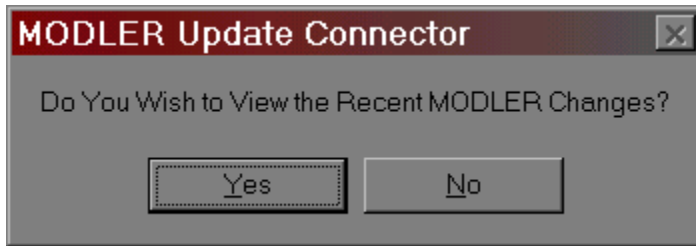
At this point, what precisely happens will depend upon the specific download. If you download an update to MODLER, almost immediately you should see in the context of your Windows desktop the forms shown in Figure 19. The MODLER screen will have disappeared, in order to focus your attention on these forms. If one is on top the other carefully move it to the bottom so that the relevant portion of your screen looks like Figure 19. Consider first the form labeled “WinZip Self-Extractor – UPDATE.EXE” Obviously all the MODLER files are downloaded in the context of a zipped, self-extracting file, which is called UPDATE.EXE. You will generally need to respecify the download directory on your machine, as WinZip tends to want to download to \Windows\TEMP. Once the right download directory is specified, then choose first to **Unzip** and thereafter **Close** the extractor program.



**Figure 19. Final Update Forms**

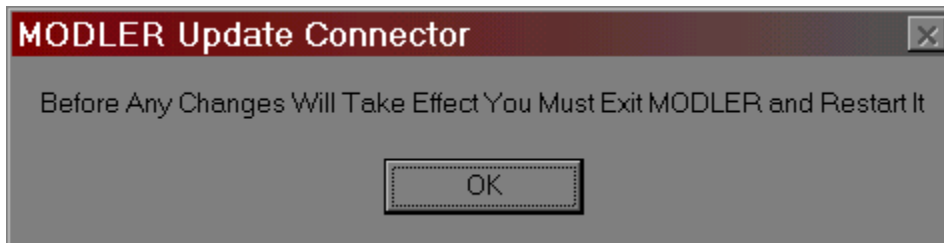
Looking now at the second form, note that it tells you that the MODLER update connector is preparing to update MODLER's executable files and gives you a last chance to abort the update, by pressing the **Cancel** button, if you should so wish. But if you want to continue with the update, press the **OK** button.

If and when you click **OK**, you will be presented with the form shown in Figure 20, which allows you the chance to view immediately the recent changes to MODLER as embodied in the update. If you press the **Yes** button, the file Changes.Txt will be displayed in the context of your default notes editor, giving you the choice of either viewing the changes onscreen or printing the display, assuming you have a printer attached.



**Figure 20. Recent Changes Form**

Finally, the form shown in Figure 21 will be displayed. This form alludes to the fact that the update process affects a running program, namely MODLER. Because it is generally unwise for any running program to attempt to change its own code, behind the scenes the website update procedure involves not only MODLER but also a second supplementary program (called UDCMOD.EXE) that actually causes the MODLER program files to be updated and produces the bottom form shown above in Figure 16. For subscribers to AlphaPlus support, UDCMOD.EXE is a component of all MODLER versions 10.4 or later. This updating program is important for it both *must be resident on your computer before any automatic updates can be made and must be located in the same directory as the main MODLER program (MODWIN.EXE)*. In fact, if you have reached this stage of the process, the program is where it should be. However, you should still heed the message in Figure 21: close MODLER and then re-start it.



**Figure 21. Final Update Form**

Several possible “gotchas” associated with the download process have been mentioned in passing, but it might be useful to briefly visit the subject again. When you use Netscape as a default browser, you will need to close down that program manually once the downloading has occurred. However, this is an essentially cosmetic action, which does little more than to reduce the screen clutter. Other than during the file download itself, the MODLER Update Connector program and MODLER operate in the foreground, so that there is no problem per se in having Netscape continuously open, other than its seeming to continue to play a role beyond that of simply providing the download link.

But if your version of Netscape is in “smart update” mode, this browser may try to take over the process, attempting both to download the UPDATE.EXE file, and to expand it. Provided that the directory into which you are downloading is the same as the

one you have specified within MODLER as the download directory, the only real effect of this action is that the expansion process will be performed twice, once by Netscape and once by UDCMOD.EXE, the MODLER update manager program. This double expansion can be momentarily confusing, but has no permanent effect. *But* if Netscape and MODLER do not agree about the download directory, then the result will be that MODLER will not be updated notwithstanding that the update file may be downloaded and expanded (albeit by Netscape).

All the foregoing explanation refers to a MODLER update download. Any other self-extracting files that you download during the update process will be handled in much the same way as UPDATE.EXE. However, you will need to expand these files separately and locate their contents in whichever directory or directories you see fit. In general, program executable files, such as those found among the Supplemental Programs and Supporting Files (MWinSup.EXE) on the website, once downloaded should be located in the same directory as MODWIN.EXE, which is the MODLER executable file. MODLER knows the directory from which it is executed and therefore can find any program files it needs that you put there. If you put these files in another directory, then that directory must either be in the path or in the directory within which it performs its operations. Otherwise MODLER will be unable to find and use it.

In contrast, any PDF document files you select will be managed by Adobe Acrobat, which itself must first be resident on your machine; these document files can be downloaded from [www.modler.com](http://www.modler.com). The Acrobat program allows you variously to display documents on the screen, to print them, or to copy the containing PDF files to whichever directory you wish. Generally, in the case of document files, MODLER expects them to be located in the default document directory specified in your directory settings. However, whereas MODLER can display and modify ASCII text files, it will only display proprietary documents through the medium of Acrobat or Word, WordPro, WordPerfect, or other pertinent word processor program. It is you the user who needs to know where these files are, should you wish to display or work with them.

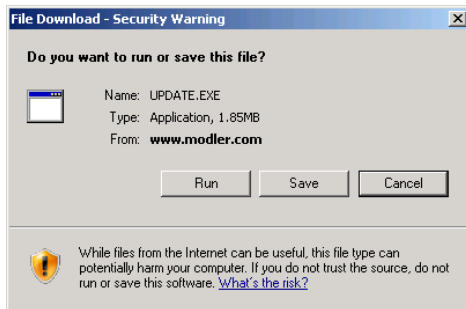
Should you have any problems downloading files from [www.modler.com](http://www.modler.com), please do not hesitate to contact us at one of the locations described on the MODLER technical support screen, which is accessible from the main help menu or by clicking the large MODLER icon on the main MODLER screen.

### ***Internet Explorer-based Download***

If your default browser is Internet Explorer and you are running MODLER Version 10.4 Build 68 or later, you will find that the bottom of the MODLER Help menu list will offer two choices: “Update MODLER from Website” and “View All Downloadable MODLER Files.” Earlier builds offer only the first of these. When executed, it simply downloads a file and updates MODLER, with a minimum of effort. The second gives you much more choice displaying instead a form quite similar to that shown above in

Figure 15, but now as an Internet Explorer-displayed Web page. This option allows you to download a variety of MODLER-related files, including an update to MODLER. The process is essentially the same as that described in the last section and because of this similarity, only the first of these two options will be considered here.

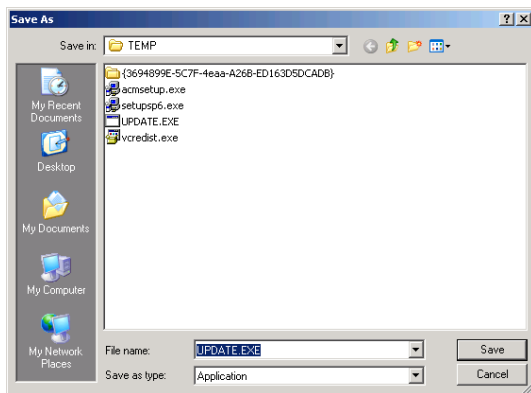
If you select “Update MODLER from Website,” the next thing that you should see is the File Download form shown in Figure 22. The appropriate choice to make is, “Save.”



**Figure 22. Internet Explorer File Download Form**

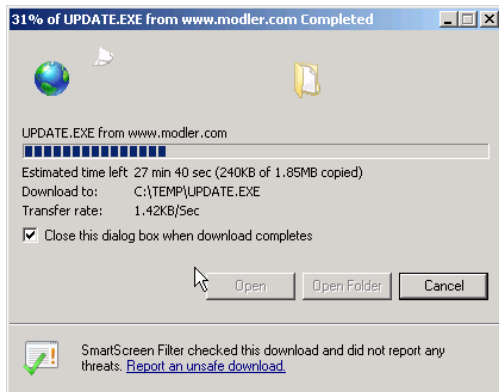
The alternate choice will result in a more complex download, with much more user intervention required. Click **OK** to continue.

You should next see the screen shown in Figure 23. Note that the top of this form gives the name of the directory that Internet Explorer intends to use for the download, here shown as C:\TEMP. *For the update to succeed, this directory must be the same as the MODLER default download directory, as specified in your current Directory Settings.* If it is not, and you continue the download, the MODLER Update Connector program will not be able to find the downloaded files on your hard disk. Therefore, before clicking the Save button, make sure the directory settings match. If they do not, then use the facilities of this form to change the download directory so that they do.



**Figure 23. Save As... Download Form**

Once you have clicked the **Save** button, the next form that should appear is that shown in Figure 24 below. This form obviously monitors the download. Note that the box labeled “Close this dialog box when download completes” is checked, as it should be.

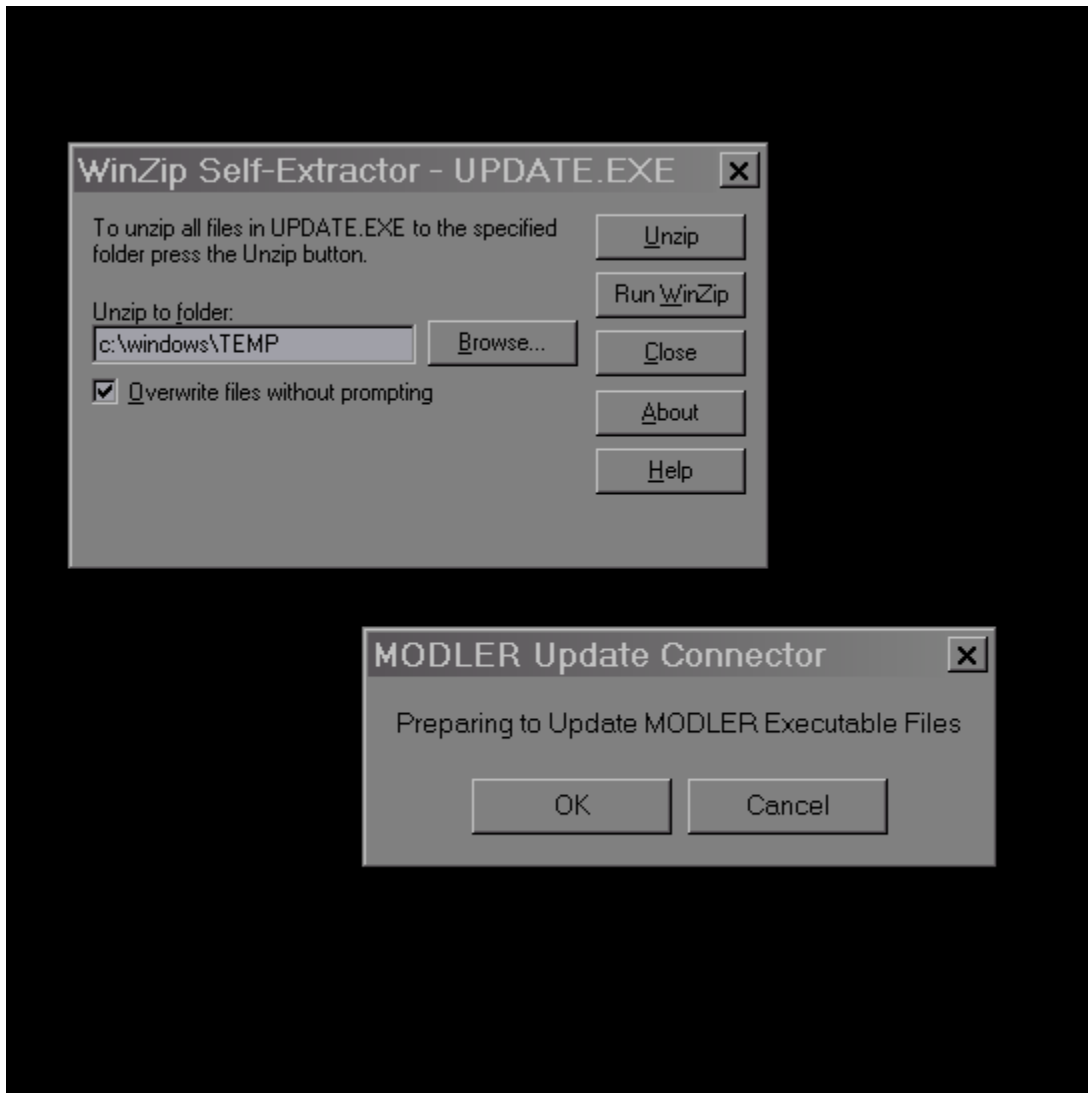


**Figure 24. Download Monitor Form**

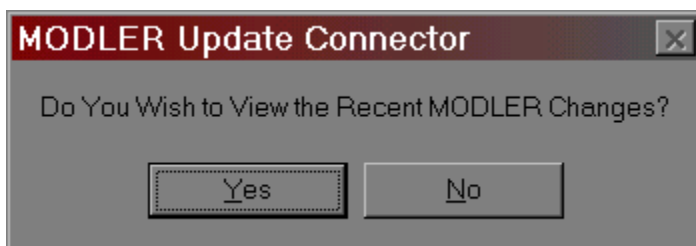
When the form in Figure 24 disappears, you will be returned to MODLER, but then almost immediately, in the context of your Windows desktop, you will be shown the two forms displayed in Figure 25. If one is on top the other carefully move it to the bottom so that the relevant portion of your screen looks like Figure 25. The MODLER screen will have disappeared, in order to focus your attention on these forms. Consider first the form labeled “WinZip Self-Extractor – UPDATE.EXE” Obviously all the MODLER files are downloaded in the context of a zipped, self-extracting file, which is called UPDATE.EXE. You will generally need to respecify the download directory on your machine, as WinZip tends to want to download to \Windows\TEMP. Once the right download directory is specified, then choose first to **Unzip** and thereafter **Close** the extractor program.

Considering now the second, bottom, form in Figure 25, notice that it gives you a last chance to abort the update, by pressing the **Cancel** button, if you should so wish. But if you want to continue with the update, press the **OK** button.

If and when you click **OK** to confirm that you wish to continue the update, you will next be presented with the form shown in Figure 26 below, which offers you the chance to view a reasonably detailed description of the recent changes to MODLER as embodied in the update. If you press the **Yes** button, the file Changes.Txt will be displayed in the context of your default notes editor, providing you the ability either to view the changes onscreen or to print the display. Alternatively, you can always read this file later by clicking on the element in the main **Help** menu: “Recent Changes to MODLER.”

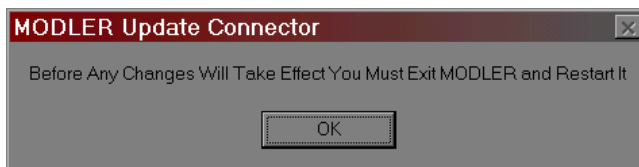


**Figure 25. Final Update Forms**



**Figure 26. Recent Changes Form**

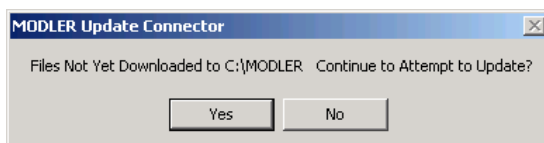
Finally, the form shown in Figure 27 will be displayed. This form alludes to the fact that the update affects a running program. Because it is generally unwise for a running program to attempt to change its own code, behind the scenes the website update procedure involves not only MODLER but also a supplementary program (called UDCMOD.EXE) that actually causes the MODLER program files to be updated and which actually produces the bottom form shown earlier in Figure 25. For subscribers to AlphaPlus support, it is a component of all MODLER versions 10.4 or later. This updating program is important for it both *must be resident on your computer before any automatic updates can be made and must be located in the same directory as the main MODLER program (MODWIN.EXE)*. In fact, if you have reached this stage of the process, the program is where it should be. However, you should still heed the message in Figure 27: close MODLER and then re-start it.



**Figure 27. Final Update Form**

There are a few “gotchas” that bedevil the download process from time to time. For instance, when beginning to use Microsoft Internet Explorer, if you are not at that time connected to the Internet for some reason, the program will display a message to this effect and give you the choice of “working offline” or trying again to connect. If you should choose to “work offline,” the apparent immediate result is that nothing happens: the Explorer dialogue box simply disappears and you are left staring at the MODLER screen. The reason is that with nothing to do Internet Explorer simply closes down. If, in contrast, you select try again, Explorer will try again and then will again give you the choice to work offline or try yet again. The solution of course is to abort, establish a dial-up or direct Internet connection and then start the process over. But there will not be any message on the screen that tells you to take either of these actions.

Sometimes, however, Internet Explorer is difficult to start, perhaps because it is in the middle of some unrelated Windows task; this may reflect its well-known integrated role in Windows since Windows 95. The effect can be that MODLER attempts to account for Internet Explorer’s lack of activity by assuming that it has already done the job of downloading the update files, at which point MODLER begins to search for these files, which can lead to the message shown in Figure 28.



**Figure 28. Vain Attempt Message**

On the other hand, if you are properly Internet-connected at the time you choose to update MODLER, Explorer will display the download dialogue box shown in Figure 22 that, as noted earlier, gives you two choices in particular. The first is to “Run this program from current location.” The second is to “Save this program to disk.” This offered choice reflects that, in order to save time, the MODLER update files are downloaded packed in a Zipped self-executable file; Internet Explorer obviously interprets any download file having an EXE extent as being a “program,” rather than simply as a self-expanding file. As indicated earlier, the appropriate choice to make is to “Save this program to disk.” However, should you instead make the other choice, in most instances there will be no fundamental problem, although the net effect is likely to be for the download and update process to be comparatively slow to execute.

As implied by the foregoing discussion, in the context of this MODLER program update, Internet Explorer operates in minimized mode. If you have a current Internet connection at the time you begin the process, all you will see of Internet Explorer is a small dialogue box that opens during the actual download process, and then closes once the download is done, after which you will be notified that the MODLER Update Connector program (UDCMOD.EXE, mentioned above) is processing the downloaded files. In this case, the MODLER update process is so quick and minimal in operation that it will be hardly apparent that much of anything has occurred. MODLER will be updated in a matter of 5 minutes at most, much less if you have a wired broadband connection, with the bulk of the time consisting of the actual file download from the Internet. Be sure, at the end of the process, to close MODLER and restart. If you then check the About MODLER splash screen, you should observe from the new version/build number(s) that an update has occurred.

Very occasionally, during the download process, you may see a error display to the effect that there has been an “Overflow,” which offers you the chance to click **OK**. Once you have clicked **OK**, everything subsequently proceeds normally. As a matter of definition, an “Overflow” occurs during a calculation when the result of that calculation is a number too large for the computer to handle, such as occurs if you were to attempt to divide by zero. In this instance, the error apparently occurs deep in Windows and is simply reported via MODLER. The solution to this problem is to restart Windows as soon as convenient.

MODLER, in contrast, could generate an overflow. Although numbers that are used as denominators in expressions are routinely checked prior to calculations to insure that they are not zero or very near to zero, it is possible in some rare instances for the check not to be made. However, in this case, what you will experience is not business as usual, once you have pressed **OK**, but instead a sudden halt to MODLER processing. You will then need to reboot MODLER. Should you experience an overflow of this type, please report to us both the error and its precise context.

## Updating MODLER by Hand

The automatic and semi-automatic update processes just described are intended to be sufficiently easy to accomplish to be the usual way to update MODLER. However, there are times that you may wish to control the updating process even more precisely or simply to understand exactly what is involved. As a general rule, updating MODLER essentially involves replacing 3 or 4 files that will be located in 2 or 3 directories on your hard disk. Occasionally, file conversion or other supplementary files will be changed or added. These updating files are shipped, or made available on the website [www.modler.com](http://www.modler.com), in the form of a compressed self-extracting executable file named UPDATE.EXE; it is normally compressed using the well-known and widely used PKZIP compression.

When you receive an update in this form, you should extract the files it contains to a *temporary* directory that is otherwise empty, and which is meant to be erased or even deleted subsequently. You may, however, wish to preserve UPDATE.EXE itself.

If you make manual updates, you should *not* attempt to perform these updates while MODLER is in execution. If you do, the effect is likely to be a Windows error message to the effect that a “Sharing Violation” has occurred. You also should not download files directly to the MODLER executables directory, the one containing such files as MODWIN.EXE, nor should you use this directory as the one in which you expand downloaded or otherwise obtained self-extracting files. You would be well advised to create an entirely separate EXTRACTOR directory that you use to perform the extraction process, then copy the extracted files to the appropriate program directories.

As shipped, UPDATE.EXE will normally contain, at minimum, the following files:

MODWIN.EXE  
MODC1.DLL  
Changes.TXT

The first of these should be copied to the directory in which you locate MODLER executable files; as discussed earlier, this directory is established at the time of the initial installation of MODLER for Windows, but can be changed during any complete re-installation of the program. The second file, MODC1.DLL, must be copied to the Windows System directory, the name of which is usually \Windows\System in the case of Windows 3.x and 9.x, and \WinNT\System in the case of Windows NT and later Windows versions. Particularly in the context of a local area network, some slight variations on this theme may be encountered. Changes.TXT, in contrast, is a simple textfile that describes the updates and improvements that the other files incorporate; it can be read using any word processor or other text-processing package. Changes.TXT should also be located in the same directory as MODWIN.EXE, where it can be read, beginning with MODLER version 10.4, by clicking on **Help** and then **Recent Changes to MODLER**. MODLER senses any file of this name in this directory, and if it is

present makes it available for viewing in this way.

A description of the files available at [www.modler.com](http://www.modler.com) is provided in the next section of this *Getting Started and Maintenance Guide*. Because of this general capability to download supplementary files, the contents of UPDATE.EXE tend to be restricted to only a few files, as just stated. The additional file most likely to be included is MODWIN.HLP, the MODLER helpfile, and then only occasionally. One of the reasons for this policy is to avoid the unnecessary overwriting of files that you may have on your machine. Whenever relevant, the Changes.TXT file, included in UPDATE.EXE, identifies any additional files located on [www.modler.com](http://www.modler.com) that are pertinent to the update but are not an essential feature.

## Files Available at MODLER.COM

The MODLER website [www.modler.com](http://www.modler.com) offers you the capability to download supplementary programs for use with MODLER, and sometimes models, data banks, and other files that can be used with MODLER. This method of distribution is preferable in many cases to the use of email attachments. Increasingly, MODLER client organizations have erected firewalls that prevent or significantly limit the use of email attachments, particularly when those attachments take the form of executable files. But, in addition, you may find it a nuisance to receive at some arbitrary time a substantial mailing consisting of a several megabytes or more, whereas you can choose the time to download to suit your own schedule and convenience. Furthermore, an email attachment normally is loaded into your download file, taking up space, and requiring your attention at a time that may not be convenient; in contrast, when you instigate a download, you normally will be ready to focus on the task of organizing the file transfer process.

There are several types of downloadable files available at MODLER.COM. Certain of these contain files integral to the use of MODLER. For instance, supplementary programs such as the Census X-11 quarterly and monthly seasonal adjustment packages operate as child processes launched by MODLER, yet provide facilities that are conceptually integral. Alternatively, data file conversion packages, such as the programs created in order to translate Lotus and other spreadsheet programs, may work with MODLER but do so only in order to permit data sets to be imported. These programs are much more distinct in terms of their functionality.

### **MODLER Supplementary Files: MWinSup.EXE**

A particular downloadable file is MWinSup.EXE. It is updated regularly and contains both programs and data files, among others. At any point in time, the MWinSup.EXE file at MODLER.COM will contain the latest version of seasonal adjustment and other supplementary MODLER programs. It is downloaded from the MODLER website using the standard FTP (File Transfer Protocol) method.

### **Enhanced Capabilities**

There are a growing number of enhancements to MODLER that take the form of third party specialized products. An example is the SnagIt program, which can be downloaded from the Web and provides the capability to capture MODLER graphics immediately so as to generate JPEG, GIF, TIFF, BMP, and other image files that can be

used in Web pages and other contexts. The MODLER.COM website provides details of these and includes links that permit you to download the programs that suit your needs.

### **Other Useful Files**

Other files can consist of data banks and macro files, or file conversion programs, such as those used to convert Lotus 123 worksheet files into MODLER compatible files that can be used immediately to import data.

## Appendix A

# Other MODLER Program Files

### *Major Program Files*

In addition to the program files identified above that are regularly updated, MODWIN.EXE and MODC1.DLL, there are a number of other program files that are shipped with MODLER and which will be updated from time to time. Most importantly, the major ones include the following six files that should be located in the program files directory (C:\WINMOD being the default name used for this directory in this document):

MODX11Q.EXE  
MODX11M.EXE  
UDCMOD.EXE  
UDCMODX.EXE  
CLEANUP.EXE  
SIMSET.EXE

and

MODC1P.DLL  
MODLER.INI

the last two of which should be respectively located in the windows system directory and the windows directory. Generally, you should not need to organize these files although occasionally you may receive updates for them. The MODLER.INI file, in particular, is created by MODLER during its operation and will be modified automatically by the program. It contains directory and other settings.

Specific documentation for SIMSET.EXE and MODX11Q.EXE/MODX11M.EXE can be found at [www.modler.com](http://www.modler.com), or on the installation program diskettes or CDROM. The names of the documentation files are, respectively, SIMSET.DOC and X11.DOC. SIMSET is the side-by-side solution file editor for MODLER. MODX11Q and MODX11M are the quarterly and monthly frequency Census X11 seasonal adjustment programs, which also operate as side-by-side supplementary programs in the MODLER context. These programs are automatically executed, as needed, from within MODLER although SIMSET can alternatively function as a stand alone program should you wish.

There is one special case: if you are using Windows NT, Windows 2000 or Windows XP as your operating system, instead of the files MODX11Q.EXE and MODX11M.EXE,

you should use those named MODX11Q.WNT and MODX11M.WNT first renaming them MODX11Q.EXE and MODX11M.EXE respectively. Otherwise, you may find that when you perform seasonal adjustment the summary results may not remain on the screen long enough for you to view these results.

The files UDCMOD.EXE, UDCMODX.EXE and CLEANUP.EXE are used by MODLER to update and internally monitor the automatic and semi-automatic updating facilities.

The \DOCFILES directory of the MODLER installation CDROM generally contains the program documentation, including chapters of the User Guide as PDF files. Up-to-date versions of these files can be found at [www.modler.com](http://www.modler.com).

### ***Supporting Program Files: Data File Conversion Routines***

In order to allow the conversion of data files in various ASCII formats, the Supporting Program files include the following:

CQDCol.EXE  
CSVCol.EXE  
PRNCol.EXE

These should be installed in the main program directory (called \WINMOD here) and are used by MODLER as needed. The “Col” or “Row” designation that appears in the name of these files refers to the column or row orientation of the data to be converted. However, you will note in particular that “Row” is missing. The reason is that MODLER now incorporates certain ASCII file conversion routines as internal procedures, generally those involving row-oriented data. Thus the row specific routines, including that for TSD files, which you may be familiar with from the DOS version of MODLER, are not included in the supplementary files for the Windows version, and should *not* be used with this version. If such supplementary EXE files appear in the same directory as MODWIN.EXE, here called the program or applications directory and designated \WINMOD, you may be unable to convert row oriented ASCII data files.

Depending upon your needs and interests, you may wish to download the Lotus WKS and WK1 file conversion routines found at [www.modler.com](http://www.modler.com). These files should also be put into the same program files directory used for MODWIN.EXE. However, these are not automatically distributed.

### ***Maintenance and Analysis Programs***

There are three additional automatically distributed programs, all of which are used to configure and check data banks:

ANALYZE.EXE  
CHGNA.EXE  
UNCHGNA.EXE

The first of these is by far the generally most useful of these. It is used to check to see if a given data bank has any indexing or other problems. A DOS program, it is executed as follows:

ANALYZE bankname

where bankname is any bank name. This program does *not* make any changes to a bank. It simply reads the bank and analyzes its contents. If there are errors associated with the bank, information to this effect is given immediately. At the same time, ANALYZE.EXE also then produces a separate ASCII file, called bankname.LOG, which provides further information about the errors found. In order to use ANALYZE.EXE effectively, you will probably need to include the MODLER program directory (\WINMOD here) in your machine's path. Otherwise, you will generally need to copy ANALYZE.EXE to your data bank directory to use it.

The other two programs, CHGNA.EXE and UNCHGNA.EXE, are only used with data banks that either were originally created using a DOS version of MODLER prior to version 5.20 or if you wish to use a bank created by a later version of MODLER with a DOS MODLER version prior to version 5.20. These programs should *never* be used otherwise, as they both make changes in any data bank they are used with, potentially affecting the usability of that bank. In all cases, you should back up any data banks used with either of these programs.

## Appendix B

### Other Files Copied to Windows\System

The files listed below are copied to the Windows \System directory during the installation of MODLER. Note however that in the case of Windows NT, this directory's name may be \WinNT\System. So far as original installation is concerned, you need not know the specific name of the System directory, as the installation program itself will automatically discover this in "conversation" with the operating system; subsequently, if you are updating MODLER, you can discover the name of the System directory by simply searching for the location of the MODC1.DLL file.

The file sizes shown in the list below are the compressed file sizes; these files are generally larger once located in the System directory. Not all are uniquely used by MODLER, inasmuch as other programs on the computer may use the same facilities and thus will need access themselves to some or all these files. Consequently, if you were ever to remove the Windows version of MODLER from your machine, you should be very careful which of the following files you also remove. For this reason you would be well advised to use specialist software, such as MicroHelp's Uninstaller or its equivalent, to manage this process.

VSHARE	386	8,842	01-12-96
STKIT416	DLL	4,039	08-15-95
VB40016	DLL	580,252	08-15-95
OC25	DLL	306,271	08-15-95
OLE2	DLL	170,995	01-12-96
TYPELIB	DLL	108,779	01-12-96
OLE2DISP	DLL	88,532	01-12-96
OLE2PROX	DLL	24,410	01-12-96
OLE2CONV	DLL	35,579	01-12-96
STORAGE	DLL	89,197	01-12-96
COMPOBJ	DLL	61,684	01-12-96
OLE2	REG	5,762	01-12-96
OLE2NLS	DLL	98,789	01-12-96
STDOLE	TLB	2,856	01-12-96
SCP	DLL	7,684	01-12-96
VAEN21	OLB	23,044	08-15-95
CTL3DV2	DLL	14,863	01-16-97
COMDLG16	OCX	46,105	01-12-96
GRID16	OCX	49,546	01-12-96
DBGRID16	OCX	173,744	01-12-96
GRDKRN16	DLL	103,579	01-12-96
THREED	VBX	33,489	08-24-96

## Appendix C

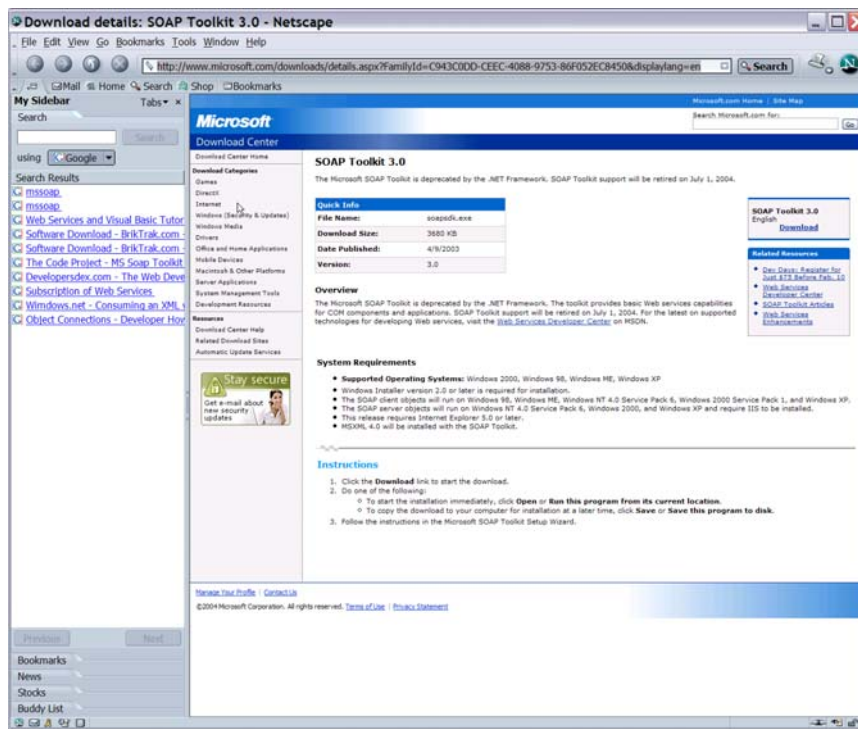
# MS Soap 3.0

Microsoft describes its (Internet) *Simple Online Access Protocol* (SOAP) as a lightweight and simple XML-based protocol that is designed to exchange structured and typed information on the Web. The purpose of SOAP is to enable rich and automated Web services based on a shared and open Web infrastructure. SOAP can be used in combination with a variety of existing Internet protocols and formats, and can support a wide range of applications from messaging systems to RPC. If you do not find this 100% intelligible, do not worry. You do not need to comprehend any of this beyond the idea that this facility supports the interchange of data between an Internet-linked computer and a given website, so as to permit a program on your machine to fetch files from that website, all entirely behind the scenes.

The latest version of MS SOAP is 3.0 and to make use of its capabilities you need to download and install the MS SOAP 3.0 Toolkit. To download and install it, do the following: First use your browser and the URL:

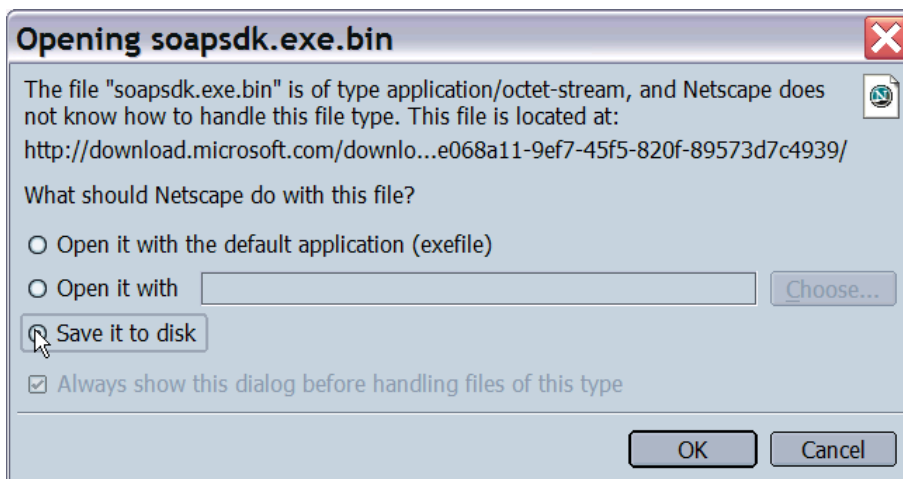
<http://www.microsoft.com/downloads/details.aspx?FamilyId=C943C0DD-CEEC-4088-9753-86F052EC8450&displaylang=en>

to locate the toolkit download screen, shown in Figure 26.



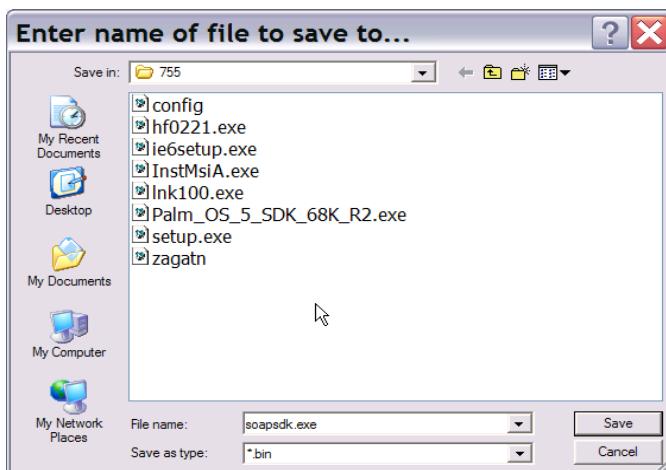
**Figure 29. MS Soap 3.0 Download Screen**

As you will see from Figure 26, in the upper right hand quadrant of this screen the word **Download** appears. Simply click on this word and a dialog box something like that shown in Figure 27 will appear. Choose “Save it to disk.” You will notice that the particular dialog box shown here illustrates a problem with some versions of Netscape, which treat EXE filenames by adding the extent .bin to them. If you get a dialog box like this, the file SOAPSDK.EXE will be downloaded to your machine using the name SOAPSDK.EXE.BIN. If you encounter this problem, simply rename the file to SOAPSDK.EXE.



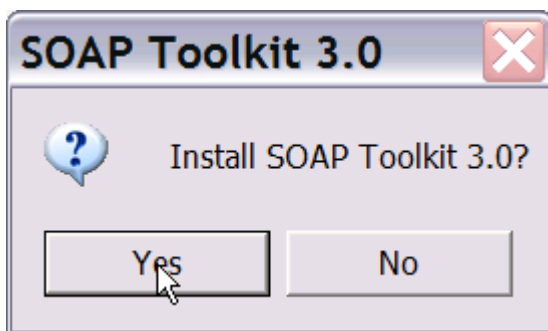
**Figure 30. Download Control Dialog Box**

Once you have chosen to save the file to disk, you should next see a dialog box similar to that shown in Figure 28. Note that this one permits you to choose the specific directory or folder that the file will be downloaded to and, in addition, to choose the type of file the it will be saved as. Ideally, you should choose the file type as .EXE. However, you may need to save it as a .BIN file and then rename it, if you encounter the problem illustrated.



**Figure 31. File Save and Name Control**

When the file has been downloaded, use Windows Explorer, or other file management program, to open the directory you stored the file in. Assuming that it has been stored as an .EXE file, simply click on it. Its name should be SOAPDSK.EXE. At that point the dialog box shown in Figure 29 should appear on your screen. Choose the Yes option, and the Installation Wizard screen shown in Figure 30 should appear. Choose Next and simply follow the onscreen instructions.



**Figure 32. First Installation Screen**



**Figure 33. Installation Wizard Screen**