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## Computer Viruses and What to Do About Them

### **Virus Terminology<sup>1</sup>**

Viruses are computer programs that are designed to spread themselves from one file to another on a single computer. A virus might rapidly infect every application file on an individual computer, or slowly infect the documents on that computer, but it does not intentionally try to spread itself from that computer to other computers. In most cases, that's where humans come in. We send e-mail document attachments, trade programs on diskettes, or copy files to file servers. When the next unsuspecting user receives the infected file or disk, they spread the virus to their computer, and so on.

A Trojan Horse program comes with a hidden surprise intended by the programmer but totally unexpected by the user. Trojan Horses are often designed to cause damage or do something malicious to a system, but are disguised as something useful. Unlike viruses, Trojan Horses don't make copies of themselves. Like viruses, they can cause significant damage to a computer.

Worms are like viruses in that they do replicate themselves. However, instead of spreading from file to file, they spread from computer to computer, infecting an entire system. Worms are insidious because they rely less (or not at all) upon human behavior in order to spread themselves from one computer to others. The computer worm is a program that is designed to copy itself from one computer to another, leveraging some network medium: e-mail, TCP/IP, etc. The worm is more interested in infecting as many machines as possible on the network, and less interested in spreading many copies of itself on a single computer (like a computer virus). The prototypical worm infects (or causes its code

to run on) a target system only once. After the initial infection, the worm attempts to spread to other machines on the network.

A virus hoax is an e-mail that is intended to scare people about a non-existent virus threat. Users often forward these alerts thinking they are doing a service to their fellow workers, but this causes lost productivity, panic and lost time. This increased traffic can soon become a massive problem in e-mail systems and cause unnecessary fear and panic. Hoaxes represent a serious threat to e-mail systems. Consequently, the Symantec AntiVirus Research Center (SARC) has dedicated an entire web page to them, which is located at: (<http://www.symantec.com/avcenter/hoax.html>)

## **Virus Myths**

While viruses are capable of damaging systems, they cannot do the following:

- Viruses don't infect files on write-protected disks.
- Viruses don't infect compressed files. However, applications within a compressed file could have been infected before they were compressed. Some viruses are known to insert copies of themselves in already-created archives.
- Viruses don't infect computer hardware such as monitors or computer chips; they only infect software. They can, however, damage certain types of hardware such as flash-memory.
- Macintosh viruses don't infect DOS-based computer software, and vice versa. For example, the Michelangelo virus does not infect Macintosh applications. Again, an exception to this rule are the Word and Excel macro viruses, which infect spreadsheets, documents, and templates which can be opened by either Windows or Macintosh computers.
- Viruses usually do not identify themselves as viruses, even after they do something destructive.

## **Virus Control**

Viruses can be controlled at the desktop, the file server, the gateway, and on e-mail servers. Desktop and server anti-virus applications allow for virus scan and detection on an on-going and periodic basis, as well as each time a file is downloaded or a computer is booted. More and more, computer users have anti-virus software running full-time in the

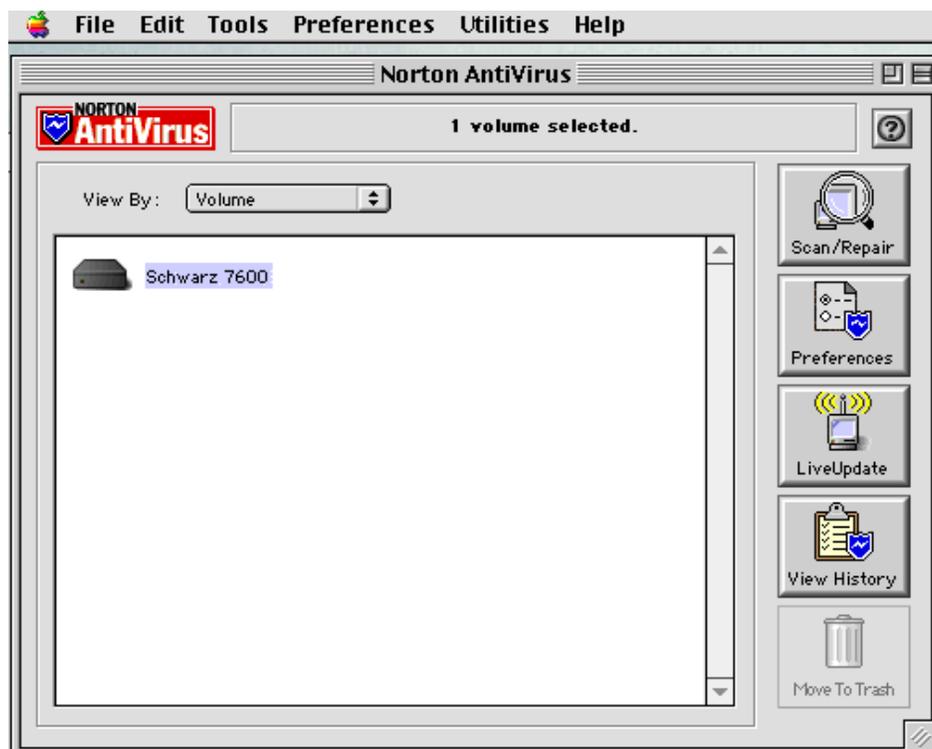
background, scanning all files and diskettes the moment they are accessed. As macro viruses proliferate, scanning e-mail attachments at the desktop is critical.

<sup>1</sup>Resource:

<http://www.symantec.com/avcenter/virus.backgrounder.html>

## Anti-Virus Programs

- **Norton Anti-Virus (NAV)**
  - Published by Symantec - <http://www.symantec.com/>
  - Version 6.02 is available free from UAF's Division of Computing and Communications at <http://www.uaf.edu/dcc/FTP/antivirus/index.html>
  - NOTE: Office 2001 and Mac OS X are not compatible with NAV version 6.02, but appears to be compatible with version 7.0. If you are going to install Office 2001 then you will need to use Virex anti-virus software. (See below for information on Virex.)
  - When Norton Anti-Virus is launched, a screen similar to the Graphic 1 (below) will appear. Select the hard drive or storage media you want to "Scan/Repair" (disinfect) from the list on the left and click on the "Scan/Repair" button.



Graphic 1

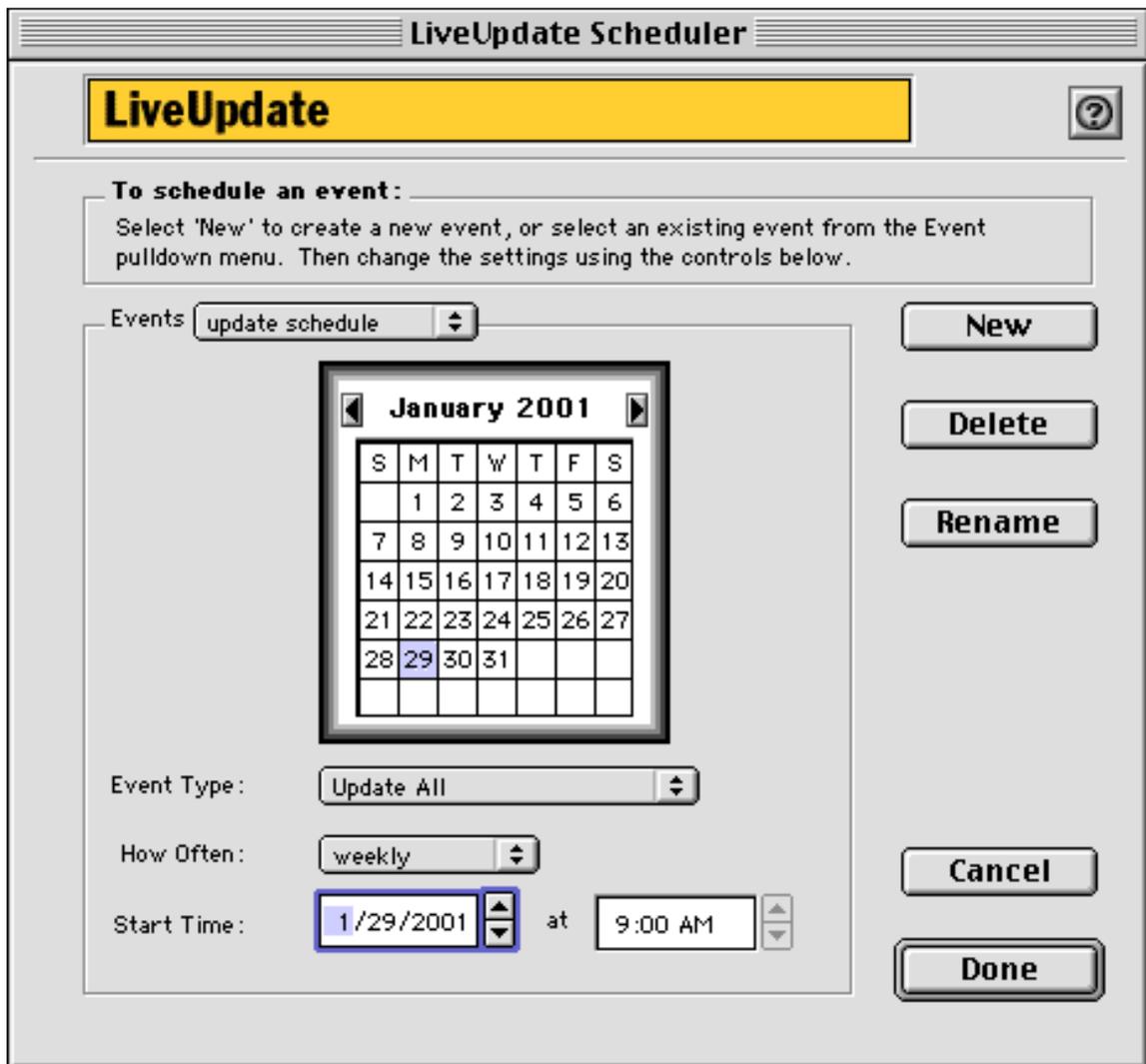
- Use the LiveUpdate program to automatically install the latest anti-virus definitions.
- This option can be selected from the options on the right when NAV is run. (Refer to Graphic 1.)
- In addition, since the LiveUpdate program is installed as part of the NAV installation, it can be launched separately. The default location for LiveUpdate is at the root directory of the hard drive. If it is not there, search for it using the Command-F key combination.
- When LiveUpdate is run, a screen similar to Graphic 2 (below) is displayed.



Graphic 2

- To establish a schedule for LiveUpdate to automatically check for new anti-virus data files complete the following steps:
- Click on the “Schedule Future Updates” button and a screen similar to Graphic 3 (below) will be displayed.

- Click on the “New” button and give the (scheduling) Event a name.
- Click on the box adjacent to the label “Event Type” and select “Update All”.
- Click on the box adjacent to the label “How Often” and select “Weekly”.



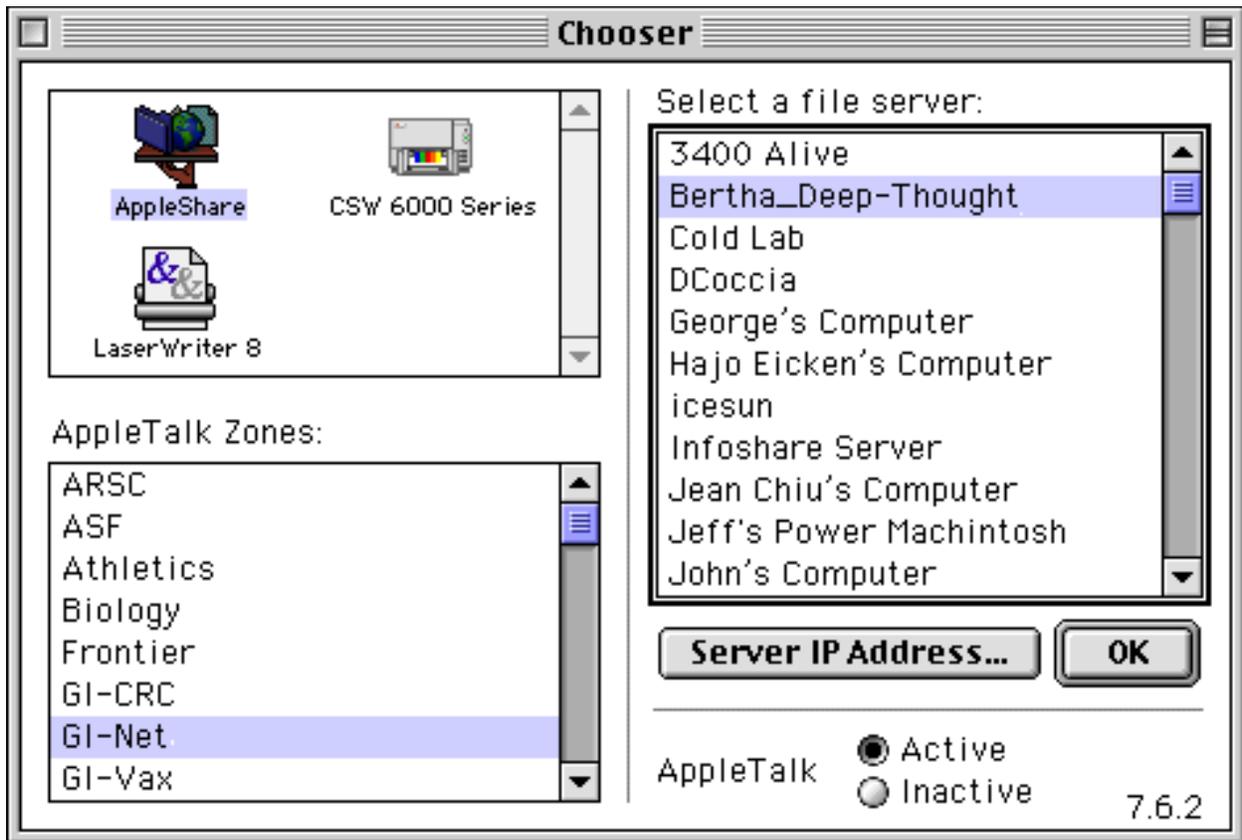
Graphic 3

- Indicate a start date and a time that you would like LiveUpdate check for data updates. You might want to choose a time where you most likely not going to be at your computer (lunch, after work, before work) and that your computer will be on. One note to remember: If you have installed the

program Norton Utilities on your computer and have indicated (through the Update All” selection) that you would like LiveUpdate check for updates to this program, you will be asked to insert the program Norton Utilities CD. Consequently, you would want to insert the Norton Utilities CD into your CD/DVD drive before you leave your computer and have LiveUpdate do its thing unattended.

### Virex

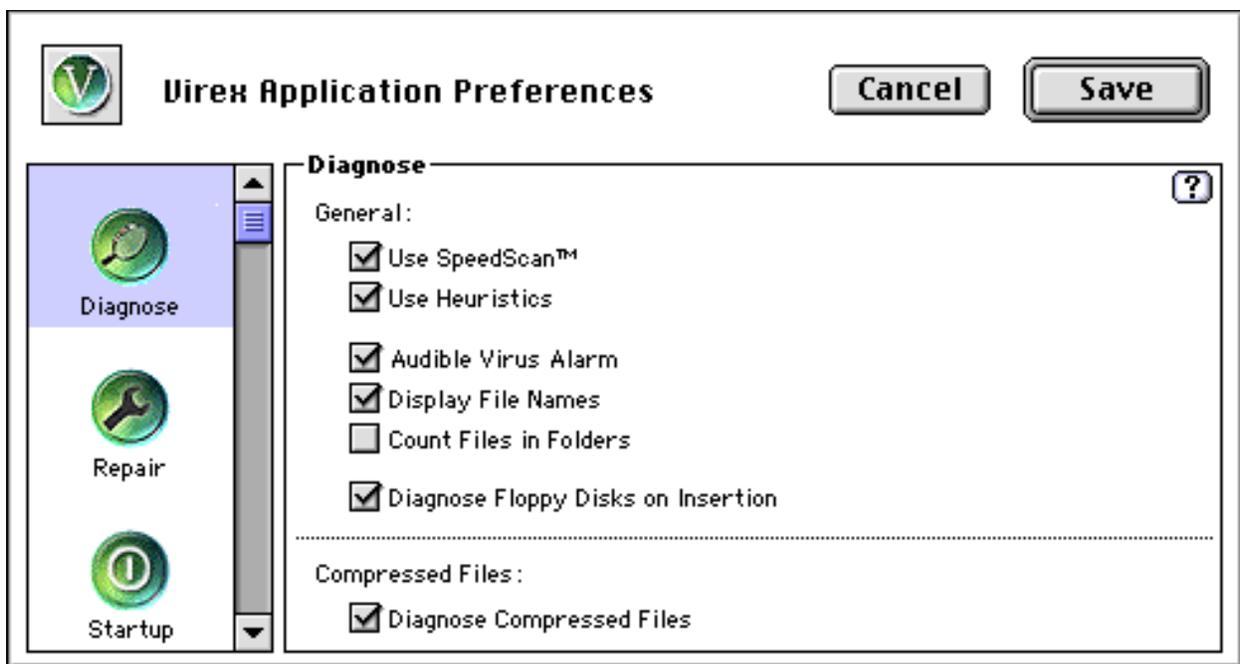
- Published by Network Associates - <http://www.nai.com/>
- A copy of this program is located on the Bertha\_Deep-Thought server located in the GI-Net AppleTalk Zone. (Refer to Graphic 4.)



Graphic 4

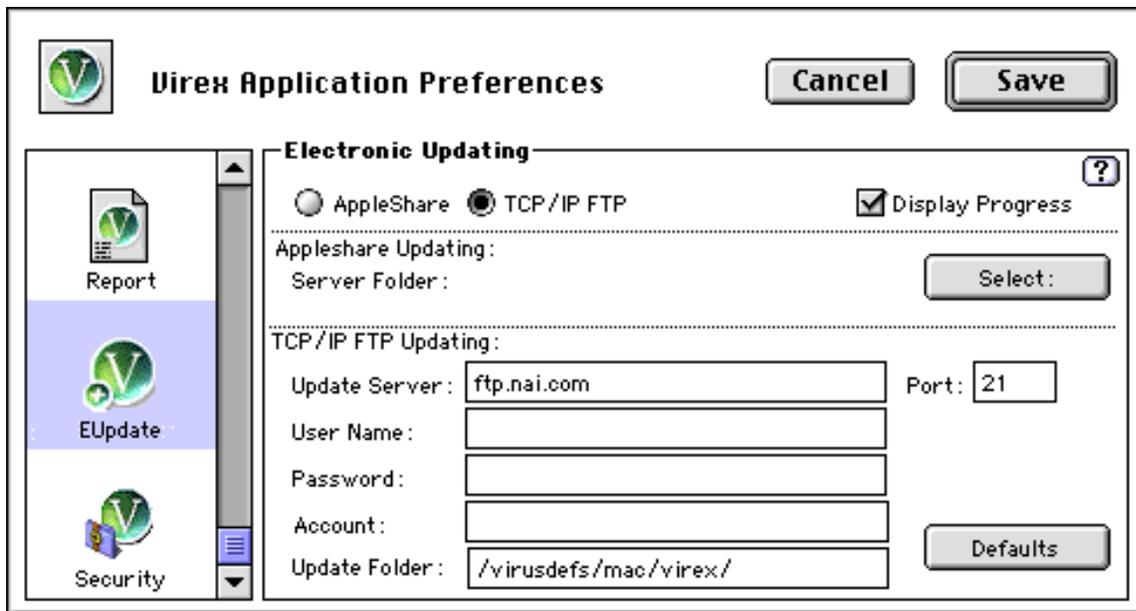
- The specific location of Virex on the Bertha\_Deep-Thought server is: Deep\_Thought/Commercial\_Software\_Updates/Network Associates/Virex 6.1

- A Mac OS X compatible version of Virex is scheduled for release in July 2001.
- After installing Virex, click on the “Preferences” button at the top of the program screen. Click the “Diagnose” option from the left menu of the newly opened “Virex Application Preferences” window. (See graphic 5 below.)
- I would suggest that you click in the box next to “Diagnose Floppy Disks on Insertion” to select this option. This will reduce the chance that a virus is transferred to your computer from a floppy disk, a Zip Disk, Jaz Disk or other removable media.
- Click on the “Save” button.



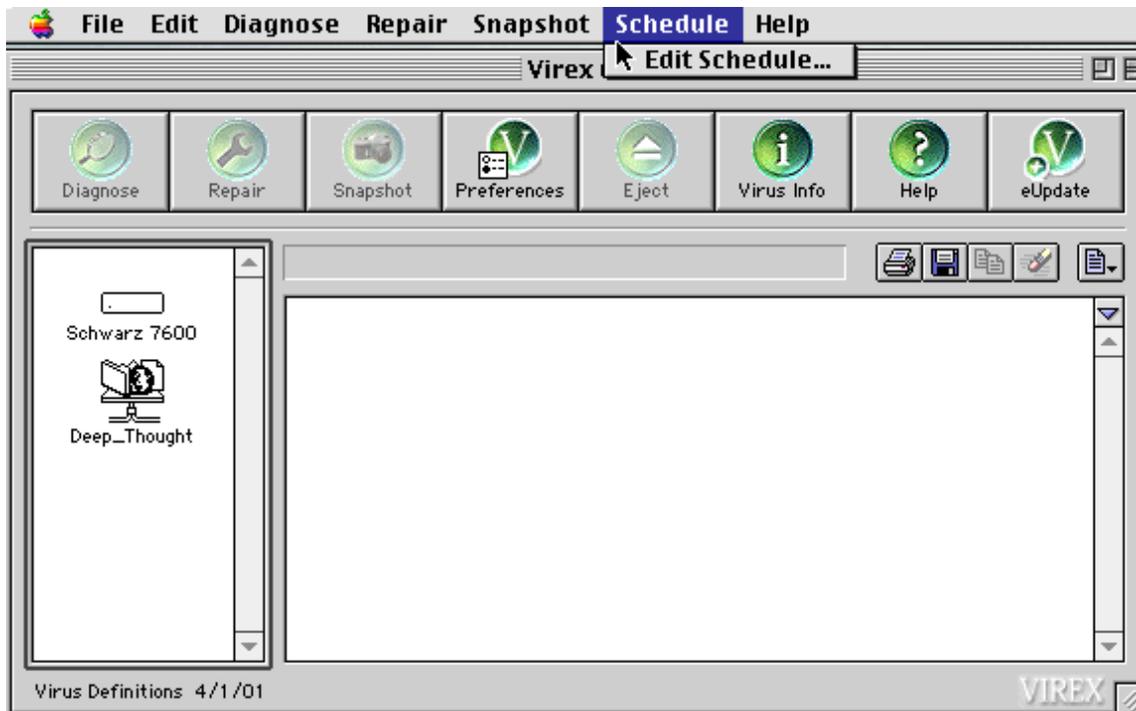
Graphic 5

- Click on the “Preferences” button at the top of the program screen again. Scroll down the menu on the left until you see the option “Update”. Click on “Update”. The settings should be as indicated below indicated in Graphic 6 (below). If they are different, click on the “Default” button to reset.



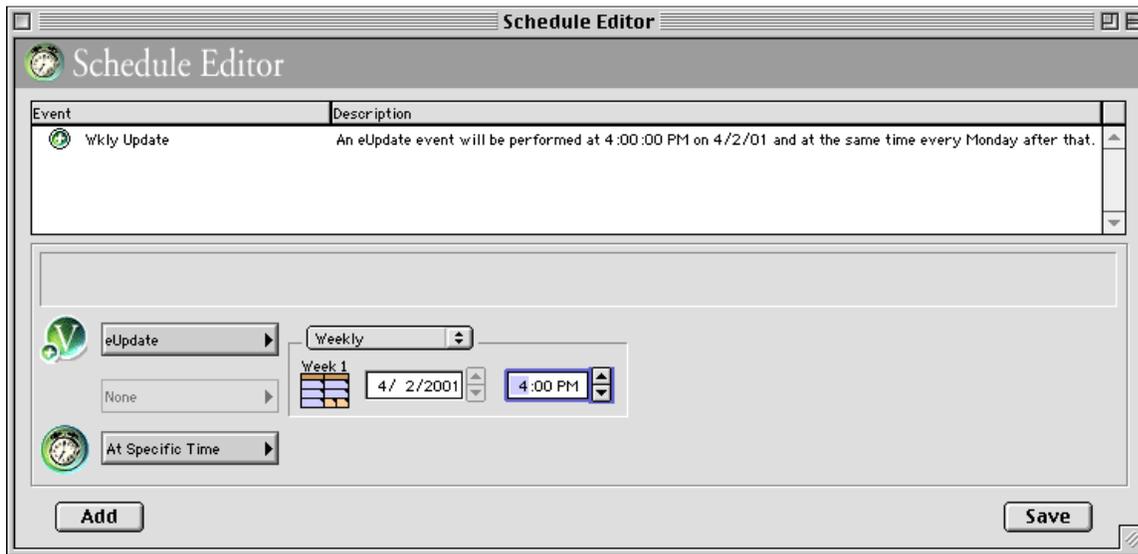
Graphic 6

- To use the “Schedule Editor” to schedule routine updates of the virus data files, select “Edit Schedule” from within the “Schedule” drop-down menu option. (See Graphic 7 below.)



Graphic 7

- Click on the “Add” button at the bottom of the “Schedule Editor” window. (See Graphic 8 below.)
- Click on the box next to the green circle with the V in it and selected “Update” from the choices provided.
- Click on the box next to the clock and select “At Specified Time” from the options provided.
- In the corresponding boxes, indicate a date that you would like the first update to occur and indicate in the time box when you would like each update to occur. (Refer to Graphic 8 below.)



Graphic 8

- Click on the “Save” button.
- Quit out of the program.