

# Norton CrashGuard™ User's Guide



# Norton CrashGuard™ User's Guide

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# Introducing Norton CrashGuard

## Welcome to Norton CrashGuard 4.0

Norton CrashGuard's goal is to protect you from the effects of computer crashes—lost data and time. Since it is impossible to prevent computer crashes, CrashGuard gives you the ability to do what you want most—save your work and, if necessary, return you to the program that crashed so you can keep on working.

CrashGuard's Crash Monitor runs continuously in the background, intercepting crashes and preventing data loss and wasted time. As long as you see its icon in the system area of your taskbar, you know CrashGuard is monitoring your computer for crashes.

CrashGuard can also help you recover from freezes. When you notice a program is not responding to input from you or Windows, use CrashGuard's FreezeCheck to access recovery options like VitalSave, QuickReload, and AntiFreeze. Before CrashGuard, your only option was to press Ctrl+Alt+Del and close the frozen program, losing your work and possibly corrupting your file.

## What's new in this version

Norton CrashGuard 4.0 is loaded with new features, and all of the existing features have been improved or enhanced to offer you greater crash protection and ease of use.

### Integrated crash protection

CrashGuard's Crash Monitor, Crash Assistant, and Crash Advisor work together to help you easily recover from crashes and freezes.

## Introducing Crash Monitor

Each time you start your computer, Crash Monitor begins monitoring your system for crashes. Since it must run constantly to catch crashes, it uses as little memory as possible so it does not interfere with your computing. Crash Monitor also:

- Briefly displays a splash screen when it starts and places an icon in the system tray to let you know it is protecting you.
- Alerts Crash Assistant when a crash occurs to help you recover from the crash.

## Introducing Crash Assistant

Crash Assistant appears when a crash occurs. It helps you diagnose the problem and offers you choices to assist you in recovering from the crash. It also does the following:

- At crash time, Crash Assistant offers recovery options that allow you to save your data and get back to work.
- During recovery, Crash Assistant stays open and gives you crash status information and options in case more problems occur.
- After the crash, Crash Assistant helps you restart the crashed program so you can quickly get back to work.

## Introducing Crash Advisor

Crash Advisor recommends a recovery option based on your program and system status. If you are still unsure, you can access information in online help that tells you how to evaluate the impact of the crash on the program and your system.

When you experience a crash, Crash Advisor tells you the best option for recovering from the crash.

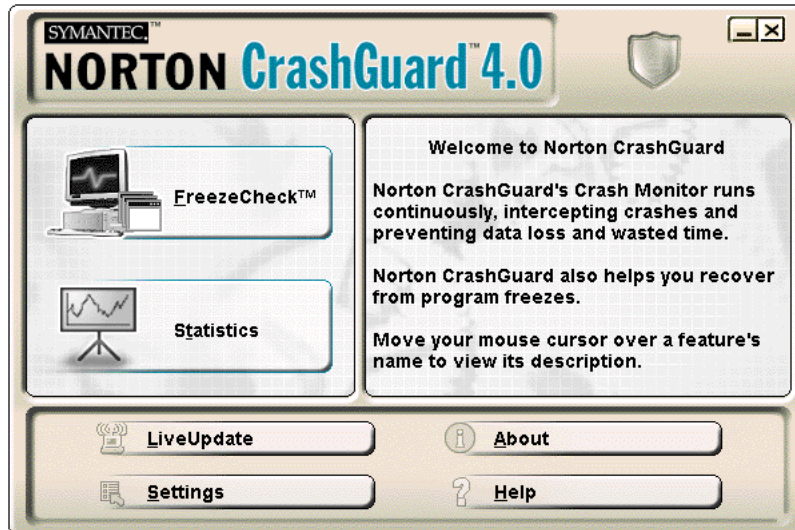
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**Note:** When 16-bit crashes occur, they sometimes block functionality in other programs. Because of this, online help might not be available during 16-bit crashes. Many programs that were originally designed to run under MS-DOS or Windows 3.x were 16-bit programs.

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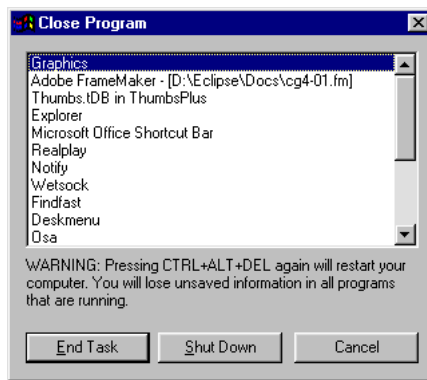
## Redesigned user interface

After extensive usability testing, the engineers at Symantec developed a user interface that is easier to use and gives you access to the options you need when you need them. CrashGuard's main window gives you easy access to important features.



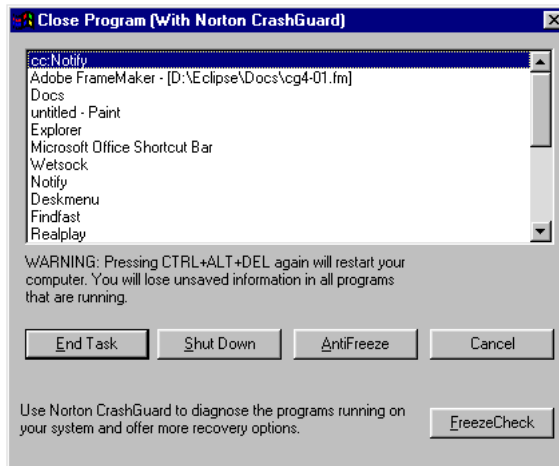
## Enhanced options for the Close Program window

Sometimes the only way to get out of a frozen application is to press Ctrl+Alt+Del. Without CrashGuard your only option is to close the program, or shut down your system.



*The Close Program window without Norton CrashGuard*

Previous versions of CrashGuard gave you the opportunity to apply AntiFreeze to frozen programs, but this version goes one step further: the Close Program window now gives you access to FreezeCheck so you can take advantage of other recovery options like VitalSave and QuickReload.



*CrashGuard adds AntiFreeze and FreezeCheck buttons to the Close Program window*

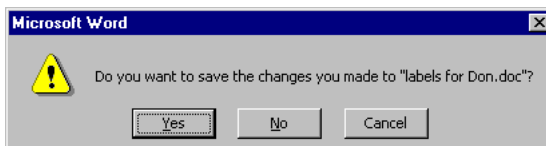
## Enhanced crash recovery options

Norton CrashGuard 4.0 offers you enhancements to the existing recovery options, as well as two new recovery options. The following sections give you important information about each of these recovery options.

### Introducing VitalSave

When your program crashes, usually the most important thing to you is saving your data. When you use VitalSave, Crash Assistant tells the crashed program to save your file. To safely save your file, Crash Assistant usually has to close the program as well.

VitalSave behaves similarly to closing a program before you saved an open file. The program prompts you to save the file by displaying a message like the one below. When you answer yes, your file is saved and the program closes.



If you see a message like this one after using VitalSave, you should respond to it as you would if you had closed the program normally.

## Introducing QuickReload

Web browsers crash for many different reasons. Sometimes these programs crash internally—other times the pages you visit cause the browser to crash. If you visit some of the more complicated web sites on the internet, you might spend a lot of time searching for that one page you need. If your browser crashes, all that time and effort is lost.

Crash Assistant's QuickReload feature lets you safely close your browser, and restart it with the page you last visited. This allows you keep your system stable and saves you time by returning to the last URL. If the browser crashes again because of the page you were visiting, QuickReload tries to return you to a previously-visited URL or your home page.

## Introducing Revive

Sometimes when a program crashes, all you care about is getting back to the file you were working on. If you are in a hurry and do not want to restart the program or Windows, you can use Revive to return to the program. Revive returns control of the program to you so you try to finish the task you were doing. You should always try to save your file immediately.

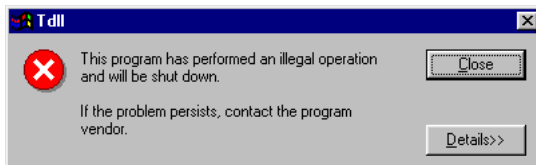
If you choose Revive, be aware that the program's controls and functionality might be impaired or might not work at all. Revive is a good option only when you absolutely need to return to your work and VitalSave is not presented as an option.

## AntiFreeze

When a program stops responding to keyboard or mouse input, but its window still appears on your screen, the program is frozen. The easiest way to spot a frozen application is that the program appears to be functioning normally, but it does not let you interact with it. Before AntiFreeze, your only option was to press Ctrl+Alt+Del and close the frozen program, losing your work and possibly corrupting your file. AntiFreeze tries to unfreeze the program, giving control back to you.

### Terminate

Terminate is the same as the Close option Windows gives you when a program crashes. If you have ever seen a message like the one below, you know exactly how terminate works. If you have a file open in the crashed program, the information you entered since your last save is lost.



Terminate is often the best option when the data you have open in the crashed program is not important or urgent. Terminate is also a good option when the crashed program does not save data, like a calculator program or solitaire game.

### Introducing SafeOriginal

In our extensive usability tests, many users expressed fear when trying to save documents after a program crash—they worried that the program might overwrite the file on their disk with a defective one.

SafeOriginal monitors the crashed program, and when the program tries to write to your file, SafeOriginal creates a copy of the original file and stores it in the SafeOriginal folder. That way, if the program corrupts your file or overwrites it with garbled data, you can revert to the undamaged duplicate SafeOriginal file.

### Introducing Blue-screen crash protection

If you are not familiar with Blue-screen crashes, you are lucky. Blue-screen crashes sometimes seem to happen for no reason. You could be playing a game or working on a document, and BOOM—your screen turns blue, displaying messages you do not understand. Some users turn off their computers, others try to return to their programs, usually impairing their system even further.

Blue-screen crashes are especially discomfoting because of their ominous appearance. Blue-screen crashes are not unlike other program crashes. The reason they look so different is because the crash happens at a much deeper level than a program crash. For example, if a program crashes, there is a good chance it affects only that program. However, when a low-level system component like a VxD crashes, it could affect many different programs on your computer, even how Windows operates.

When a Blue-screen crash occurs, your system might be very unstable, so it can only display a blue screen with system text on it—it cannot handle fancy graphics or different fonts.

Norton CrashGuard cannot prevent Blue-screen crashes, but it gives you the chance to recover the current program. Without blue-screen protection, your only option is to restart the program or your computer.

## Getting help in CrashGuard

Refer to online help for procedures, and use What's This help for information about dialog box controls.

- **What's This help**

In any dialog box, click the right mouse button on a control, such as a listbox or button, and select What's This in the menu that appears to see a description of the control and how to use it. You can also click the ? in the title bar and then click a control to see What's This help.

- **Procedure help**

Use the Help button on each window to access the help file, which contains procedures, tips, and other information. Dialog boxes contain Help buttons for general and related information about the dialog box functions.

- **Product demo**

Our tests also told us you wanted to know more about Norton CrashGuard before you install it, so we included a product demo in this version. If you would like to view the product demo before you install CrashGuard, click View CrashGuard Demo when you insert the product CD in your CD-ROM drive.

- **README.TXT file**

This file contains late-breaking information about CrashGuard.

## Giving us your feedback

This guide and the online help were written to provide you with the information you need to use CrashGuard. If you have suggestions that would improve the user's guide or online help, give us your feedback. Address your message to [pubs\\_bv@symantec.com](mailto:pubs_bv@symantec.com).

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# Getting started with Norton CrashGuard

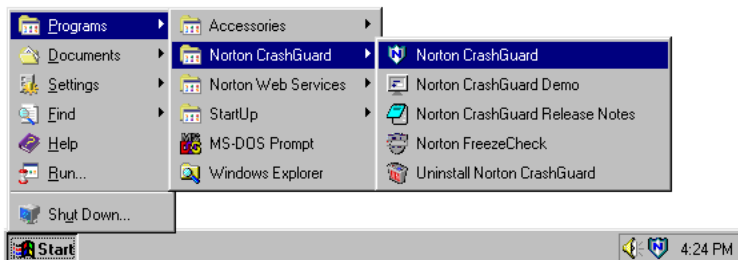
## What happens when you install Norton CrashGuard

When you install Norton CrashGuard on your computer, you will notice a few changes to your Windows desktop and to your computer:

- Norton CrashGuard's Crash Monitor icon appears in the system area of your taskbar. When you see this icon in the taskbar, you know Crash Monitor is ready to catch crashes.



- A Norton CrashGuard program group appears in the Start menu.



- A splash screen appears when you start your computer to let you know CrashGuard is monitoring your system for crashes.

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**Note:** To prevent the splash screen from appearing when you start your computer, see [“Changing CrashGuard settings”](#) on page 28.

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# Installing Norton CrashGuard

## System requirements

The minimum system requirements to use Norton CrashGuard are:

- IBM PC or 100% compatible with Windows 95, Windows 98, or Windows NT installed.
- 486-66 Mhz or higher processor.
- CD-ROM drive for installation.
- 5 MB of available space on your hard disk.
- 8 MB RAM (16 MB recommended for Windows 95 and Windows 98. Windows NT requires 16 MB).
- 256-color or better SVGA display that supports 640 by 480 resolution (600 by 800 resolution recommended).

## Viewing the CrashGuard demo

The Norton CrashGuard demo walks you through CrashGuard's new features, a crash experience, and gives you general information about crashes and freezes. It is a good idea to watch the demo before you install CrashGuard so you can become familiar with its features.

To view the CrashGuard demo:

- 1 Insert the CrashGuard installation CD in your CD-ROM drive.
- 2 Click View CrashGuard Demo.

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**Note:** If a window does not appear when you insert the CD, use Explorer to navigate to your CD-ROM drive and double-click DEMO.DBD in the Demo folder.

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- 3 Press Esc at any time to exit the demo.

After installation, the CrashGuard demo is also available from the CrashGuard program folder in the Start menu.

## Installation procedure

When you insert the product CD in your CD-ROM drive, it automatically displays a window giving you the option to install CrashGuard.

To install Norton CrashGuard:

- 1 Insert the CrashGuard product CD in your CD-ROM drive.
- 2 Click Install CrashGuard.

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**Note:** If a window does not appear when you insert the CD, click the Start button and select Run in the menu that appears. Type D:\DISK1\SETUP.EXE, where D is your CD-ROM drive letter.

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- 3 Follow the instructions that appear on the screen to finish the installation.
- 4 When prompted, click Yes to read the Release Notes for CrashGuard. These notes contain important information about CrashGuard.

## Removing Norton CrashGuard

The following procedure details how to remove Norton CrashGuard program files from your computer.

To remove Norton CrashGuard from your computer:

- 1 Click the Start button, then select Settings > Control Panel.
- 2 Double-click Add/Remove Programs.
- 3 In the list of installed programs, select Norton CrashGuard. Then click Add/Remove.
- 4 Follow the instructions that appear on the screen.

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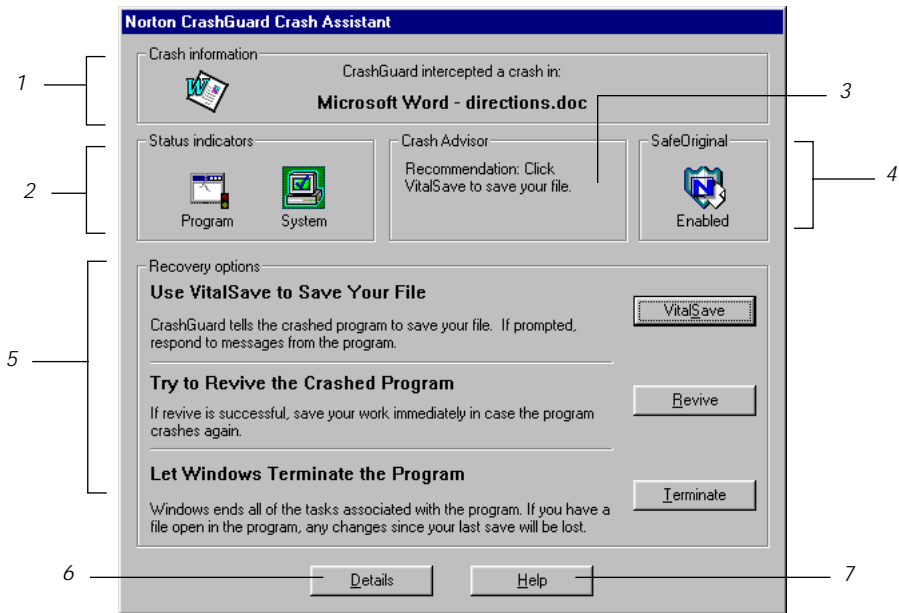
**Note:** You can also select Uninstall Norton CrashGuard in CrashGuard's program folder in the Start menu. To do this, click the Start button. Then select Programs > Norton CrashGuard > Uninstall Norton CrashGuard.

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## Getting started after installation

When your computer restarts after installation, CrashGuard starts automatically, protecting you while you work. Without Norton CrashGuard, Windows lets you do one thing when a crash occurs: close the crashed program, losing any data you entered since your last save.

What Norton CrashGuard does is offer you choices. When CrashGuard intercepts a crash, its crash alarm appears on the screen. CrashGuard gives you options for dealing with the crash. If you are familiar with the options before you experience a real crash, you will know how to make appropriate choices.



Crash Assistant's crash alarm:

#	Name	Description
1	Crash Information	Displays the name of the program that crashed, and in some cases, the file that is open in the crashed program.
2	Program and System	Tells you information about how impaired the crashed program and your system are.  See <a href="#">“Program status”</a> on page 35 and <a href="#">“System status”</a> on page 36 for information about these indicators.
3	Crash Advisor	Displays the recommended recovery option based on your program and system status.
4	SafeOriginal	Shows you whether SafeOriginal is enabled or disabled.  See <a href="#">“SafeOriginal status”</a> on page 36 for information about this indicator.
5	Recovery Options	Displays your options for recovering from the crash or freeze.  See <a href="#">“Understanding your recovery options”</a> on page 37 for more information.
6	Details	Gives you access to the technical crash details.  See <a href="#">“Reading a technical crash report”</a> on page 30 for more information.
7	Help	Lets you access online help if you need help choosing an appropriate crash recovery option.

See [“Using CrashGuard to recover from crashes”](#) on page 35 for detailed information about how to recover from a crash or freeze.



## Getting the most out of CrashGuard

When you experience a crash, what you frequently care about most is saving your data and getting back to work. While Crash Assistant helps you do this, there are other CrashGuard features that can educate you about crashes and possibly help if you experience repeated crashes.

### Preparing yourself for crashes

While designing CrashGuard, the engineers at Symantec studied hundreds of actual program crashes. We had the opportunity to repeat the same crash dozens of times to determine the best way to fix them—if they could be fixed—and to discover how to save important files after each crash. Sometimes we had no trouble saving files, while other times it required clever tricks and perseverance. Sometimes nothing worked.

We had an unfair advantage: we had as many chances as we wanted. If we could not save the file one way, we merely restarted the computer, repeated the crash, and tried it again. But when your program crashes, you might have only one chance to save your file.

The best defense for computer crashes is to understand what is happening during the crash and to understand your alternatives before you need them. Since it is impossible to stop computer crashes, learning how to deal with them effectively will increase your productive computer time. How you react to a crash can be as important as what CrashGuard does.

### Knowing the difference between a crash and a freeze

A *crash* is what happens when a computer program tries to do something that it should not do, and causes itself or another program to stop functioning properly.

All programs contain lists of instructions that tell the computer how to perform tasks and how to respond to the user. Imagine for comparison a

taxi driver who calls his dispatcher for orders. The dispatcher tells the driver where to go, who to pick up, and what procedure to follow. When the driver is ready for his next job, he calls the dispatcher to find out what to do next.

A Windows program behaves much the same way, contacting its dispatcher to find out what orders are waiting, and then following a list of instructions for carrying out those orders. If the instruction chain breaks down, the program might not run correctly. See [“Walking through the crash experience”](#) on page 40 for information about recovering from crashes.

A program *freeze* is a little different. Sometimes a program stops working properly, but its window still appears on your screen. When this happens, the program is frozen; it does not respond to input from you or from Windows. Programs freeze for different reasons. Sometimes the program waits for an event that will never occur. Other times, the program is busy with a task that it can never complete.

The most important difference between a crash and a freeze is that CrashGuard catches crashes automatically and gives you options to recover from them. Because freezes are so similar to regular system activity, CrashGuard cannot detect them. You have to notice when your program is frozen and ask CrashGuard for help so you can access appropriate recovery options. See [“Diagnosing problems when an alarm does not appear”](#) on page 46 for information about recovering from freezes.

### Prioritizing what to save first

When CrashGuard tells you your program has crashed, look first to see which program actually crashed—it might not be the one you were working in at the time. If, for example, your calculator program crashed while you were entering data into your spreadsheet, your spreadsheet might not be affected. You can easily close the calculator program and not cause any harm to the program you are concerned about—the data in the spreadsheet program.

Use Revive only if you really need to save work in the program that crashed. If you were just reading a file, but not editing it, it is far safer to Terminate the program and let CrashGuard shut the program down cleanly. When you Revive a program that just crashed, all CrashGuard can fix is the crash itself—the program might become more unstable the longer you continue to use it.



If you have important unsaved work open in a program other than the one that crashed, you should consider Terminating the crashed program. The recovery options might return the crashed program to a stable state, but if your unsaved data is more important than the crashed program, Terminate will keep the crashed program from affecting your open file. If you decide to Revive the crashed program, try to save the open file immediately.

## Learning alternate ways to save your work

Many times when you start using a new program you learn one or two ways to complete your tasks, then habitually use them the same way from then on. Consequently, you might not discover alternate ways to save your files—ways that could prevent you grief if your favorite method stops working unexpectedly.

Most programs have keystrokes for popular functions. These functions are usually accessible using your mouse as well. Generally there are at least three different ways to save a file in a program, using key combinations (shortcuts), toolbars, and menus. For example, you can usually press Ctrl+S on your keyboard. You can also use your mouse to click a Save icon in the program's toolbar. If these popular options do not work, use the program's menu system or try pressing Alt+F, S.

In a crash situation, try using these helpful tips:

- Press Ctrl+S to save (if the program supports this command).  
This works with many programs, and because it requires less processing than using the mouse or opening the menus, the program is less likely to experience more problems. Programs frequently stop processing shortcut commands after a crash, so this method works only about half of the time.
- When possible, use Save instead of the Save As.  
Because it requires additional processing work, the Save As command might cause another program crash. If you must use Save As, it is safest to save the file in whatever location the program suggests, rather than searching for the correct folder. You can come back later and move the file to a more convenient location. If you are concerned about the crashed program corrupting your file, don't be. When the crashed program tries to write to your file, SafeOriginal creates a copy of it in case the Save does not work correctly.

- Copy the contents of the file to the clipboard.  
Still can't save? Try to get back to the main program window and copy the file to the clipboard. If the program has one, it is best to use the Select All command (Ctrl+A in many programs). If you try to scroll through the file, the added resources it takes to update the screen might cause the program to crash again. Press Ctrl+C to copy, then paste (Ctrl+V) the file into another program, such as WordPad or Notepad, and save it there. If this succeeds, you can come back later and copy the file back into your original program.
- Use the PrintScreen button.  
If the information you need to save is still on your screen, press the PrintScreen button on your keyboard. Then open Microsoft Paint and press Ctrl+V. This takes a screen shot of what is currently on your screen and pastes it into Paint. You might have to retype the information, but you do not have to recreate it.

### Exploiting the safety features of your favorite software

The programs you use might include safety features to save your file automatically at regular intervals, or to help recover them after a crash. Microsoft Word 97, for example, has AutoRecover. This feature increases your chance of recovering your data in case of a crash by automatically saving information about your file.

Many programs save backup files automatically. Read your manuals or search online help in the programs you use frequently to learn more about their safety features.

Most computer programs automatically offer to save your unsaved data when you close them. If you are using such a program, press Alt+F4 *before trying anything else*—this will give you the best chance of success. In order, the best ways to close the program are:

- Press Alt+F4.
- Click the Close button in the top-right corner.
- Double-click the icon in the top-left corner.
- Right-click the program's taskbar button, then select Close from the menu that appears.
- From the program's File menu, select Exit.

## Be prepared for additional crashes

Many programs crash repeatedly when trying to save files. If you really need to save your work, keep trying different recovery options. For example, if you click Revive repeatedly, the program might still save your file even after several crashes. You should also try a different recovery option if the one you selected does not work for that particular crash.

## Evaluating a crash

As you can see, CrashGuard gives you a lot of information about a crash. The one thing it cannot judge is the importance of your data and time at the point of the crash. Only you know that information.

Crashes happen for many different reasons and because of that, they differ greatly in severity. Sometimes reviving a crash will get you back to the program with no problems. Other times that same action might cripple your entire system, requiring you to turn off the computer and restart it, losing the data in all of your programs.

Because of this, you need to answer the following questions based on the circumstances of the crash:

- **Does the crashed program save a file?**

One thing you should consider when a program crashes is whether it has a file you need to save. Many programs like word processors and spreadsheet programs store your data in individual files. Some programs, like calculators and some games, do not store any data when you close them. For example, if your calculator program crashes, you do not lose anything if you close the calculator and restart it.

CrashGuard recognizes many programs that save files. When VitalSave appears as a recovery option, it is often the safest way to save your file.

- **How valuable or urgent is your data?**

If you have to give a presentation to the President of your company in thirty minutes and have just a few moments to print it, the urgency to save your data and time are far greater than if you just started an email to a friend. You would take more chances to revive that program so you can print it given the time urgency and the importance of the data.

No one likes to lose work, but sometimes it is not worth the risk to your system or other programs. Other times when the work is extremely valuable, so it is worth more risk to other programs you have open.

Since only you know when you absolutely must return to your program, CrashGuard gives you the Revive option.

- **Do you have important files open in other programs?**

Sometimes losing the information in a crashed program is not as important as a file you have open in another program. For example, if the game you are playing crashes and you just finished a level you do not want to repeat, you might use CrashGuard to try to revive. However, if that same game crashes and you have an important file open in your word processor, you might sacrifice the game so you do not make the rest of your system unstable.

Since the crashed program is not always the one you are working in, CrashGuard gives you the Terminate option so you can decide which program is more important.

## Changing CrashGuard settings

CrashGuard's default settings should suit almost every user, but you can customize the following settings:

- **General Settings**

The General settings control how Crash Assistant and other general features function. These include:

- Whether CrashGuard displays its Status and Summary windows during a crash event.
- The addition of AntiFreeze and FreezeCheck to the Close Program window. This window appears when you press Ctrl+Alt+Del (except in Windows NT).
- Whether CrashGuard displays its splash screen when you start your computer.

- **SafeOriginal Settings**

These settings control the following:

- Whether SafeOriginal is enabled.
- Whether SafeOriginal creates shortcuts to its files.

When SafeOriginal copies your original file, it places a shortcut to the SafeOriginal file in the folder where the old file exists. This helps you quickly access SafeOriginal files.

- The folder where SafeOriginal copies its files.
- How long SafeOriginal keeps its files before it deletes them.

CrashGuard enables SafeOriginal by default, and copies its files to C:\Program Files\Norton CrashGuard\SafeOrig.

- **Advanced Settings**

The Advanced settings include the following:

- The types of crashes CrashGuard intercepts. By default, CrashGuard intercepts 16-bit, 32-bit, and blue-screen crashes.
- The ability to test crashes.

To change CrashGuard settings:

- 1 Click the Start button, then select Programs > Norton CrashGuard > Norton CrashGuard.
- 2 Click Settings.
- 3 Find the settings you would like to change on the General, SafeOriginal, or Advanced tab, then click OK to save the changes.

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**Note:** Consult online help for more information about the available settings and how they affect CrashGuard.

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## Viewing CrashGuard statistics

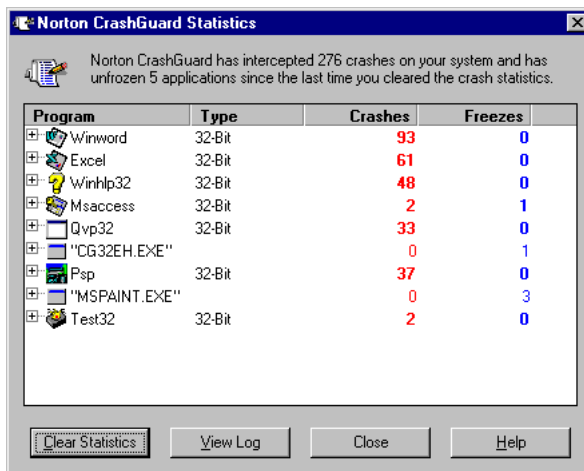
CrashGuard keeps track of how many crashes it intercepts, the number of freezes you have experienced, and the programs and modules that caused the crashes and freezes.

If you would like to see what programs are crashing and freezing on your computer, use CrashGuard statistics.

To open statistics:

- 1 Open CrashGuard's main window. To do this, click the Start button and select Programs > Norton CrashGuard > Norton CrashGuard.

- 2 Click Statistics.



Program	Type	Crashes	Freezes
Winword	32-Bit	93	0
Excel	32-Bit	61	0
Winhlp32	32-Bit	48	0
Msaccess	32-Bit	2	1
Qvp32	32-Bit	33	0
"CG32EH.EXE"		0	1
Psp	32-Bit	37	0
"MSPAIN.T.EXE"		0	3
Test32	32-Bit	2	0

- 3 If you would like to view a log of the crashes that Crash Monitor has intercepted, click View Log.

See [“Reading a technical crash report”](#) on page 30 if you need help deciphering the technical information in the crash log.

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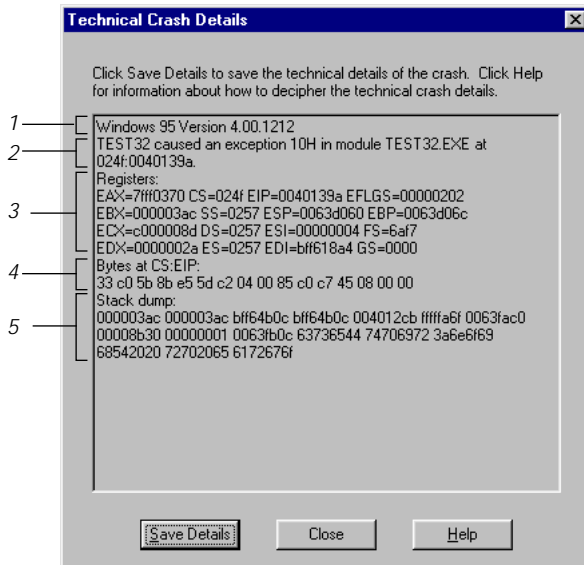
**Note:** If you suspect a program is crashing more than it should, you can use statistics to analyze that program. Click Clear Statistics to remove all of the data so you know where you started. When you refer back to Statistics at a later time, you will know how often it crashed since the time you last cleared Statistics.

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## Reading a technical crash report

When a crash occurs, CrashGuard records important information about the crashed program. Since the crash details Windows provides were designed to benefit the programmer who wrote the program that crashed, and not the user who experienced the crash, the information is very technical and not easy to understand. Nevertheless, you can learn a few things from the technical crash details.

For this crash example:



CrashGuard gives you the following information:

- 1 The version number of the operating system you have installed on your computer.
- 2 The name of the program that crashed (TEST32), the module where the crash occurred (TEST32.EXE), as well as the error that caused the crash (invalid page fault). If you do not recognize the filename, search your computer to find where it is located. Its folder might tell you which program it belongs to.

The crash address (024f:0040139a in this example) tells you where in memory the crash occurred.

- 3 The Registers show the values in each of your processor's registers at the time the crash occurred. This information might be useful to Technical Support personnel if you experience repeated crashes in a particular program.
- 4 CS:EIP is the name for the current instruction. In this example, the program crashed trying to execute the instruction whose raw value is 33 c0. This information is displayed in raw format, which is very technical. However, it might be useful to someone trying to help you troubleshoot problems on your computer.
- 5 The Stack Dump traces the route that caused the program to crash.

## Keeping CrashGuard and other programs up to date

Many software and hardware manufacturers periodically release updates to fix known issues. Some of these issues might result in repeated crashes. When you download and install current software patches and driver updates, the crashes you experienced with these programs and drivers frequently lessen or even disappear.

### Updating Norton CrashGuard

LiveUpdate connects you to a Symantec server so you can update CrashGuard program files. This provides you with the most up-to-date crash protection.

To update CrashGuard:

- 1 Open CrashGuard.
- 2 Click LiveUpdate. LiveUpdate connects you to a Symantec server to see if product or document updates are available for CrashGuard.
- 3 Select the updates you would like to download.
- 4 Follow the instructions on the screen to finish updating CrashGuard.

### Updating other programs on your computer

When you experience repeated crashes in a particular program, an update from the product's manufacturer might solve the problem. You can use your web browser and internet connection to visit the manufacturer's web site and hunt for updates, or you can let Norton Web Services do the work for you.

When you purchase CrashGuard, you receive a coupon for a discounted subscription to Norton Web Services. Norton Web Services includes LiveUpdate Pro, which can find and install new software updates and hardware drivers on your computer.



LiveUpdate Pro runs partly on your computer, and partly over the Internet. It scans your computer to see which programs you installed on your computer. It also scans your computer hardware to see what drivers you use. Then it connects to the Norton Update Library to match your software and hardware to the updates it contains. If an update is available, LiveUpdate Pro lets you know.

### To subscribe to Norton Web Services:

- 1 Locate your Norton Web Services coupon in your CrashGuard box.
- 2 Open your Internet connection and browse to <http://www.nortonweb.com>.
- 3 Click Subscribe in the navigation bar on the left.
- 4 Read the information on the pages and on your subscription coupon to help you finish the subscription process.

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**Note:** Symantec does not charge for updates for CrashGuard, or the updates that are part of your free subscription to Norton Web Services. However, your normal Internet access fees still apply.

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# Using CrashGuard to recover from crashes



## Interpreting the status indicators



Before you see a crash in an actual program, you should read the following sections to familiarize yourself with CrashGuard's status indicators and crash recovery options.

### Program status

When CrashGuard intercepts a crash, it evaluates several of the program's vital signs and translates them into status indicators. These indicators reflect the likelihood that the program will be able to continue functioning if you choose to return to the program. It does not indicate whether the program will work correctly, however, because there is no way to find out until the program resumes.



Although CrashGuard cannot ensure its recovery options are risk free, it will warn you of any threats it detects. If CrashGuard detects a threat, the indicators display more serious warnings. When you receive these warnings, you should immediately try to save your work in any other programs you are using.

Indicator	Description
	A minor crash occurred. The program has been damaged, but Crash Assistant does not detect any threatening conditions.
	The crashed program suffered a detectable level of impairment. The program might continue to function if you return to it, but it will be impaired in some way.

Indicator	Description
	A component of the crashed program is malfunctioning. Although the program might continue functioning without the impaired component, you should consider using Revive only in emergency situations.
	Crash Assistant has determined Windows might crash if you continue using the crashed program. When you see this indicator, you should not use Revive unless it is an absolute emergency.

### System status

Because a program crash can affect your system stability, Crash Assistant also displays a system status indicator when it determines your system is unstable.



Indicator	Description
	Your system stability is normal, or Crash Assistant cannot detect that there are any issues threatening your system stability.
	Crash Assistant has determined that your system could become unstable if you continue using the crashed program.

When Crash Assistant tells you your system is unstable, you should terminate the crashed program and restart Windows. You should try Revive only if the information in your unsaved file is extremely important. If you do successfully save your file, you should close the program and restart Windows.

### SafeOriginal status

When Crash Monitor intercepts a crash, it also displays a SafeOriginal status indicator. If the program or your system are very unstable, or the option you choose to save your file does not work, SafeOriginal might save you from recreating the entire file. During a crash, SafeOriginal monitors the crashed program to see what files it changes. Before the crashed program

changes your files, SafeOriginal creates a read-only copy of the original file and places it in the SafeOriginal folder.

Indicator	Description
	When enabled, SafeOriginal protects your open files from becoming corrupted. When a crashed program tries to write to an open file, SafeOriginal creates a read-only copy of the original file—the state it was in when you opened it—and places the copy in the SafeOriginal folder.
	SafeOriginal does not protect your files when it is disabled.  To enable SafeOriginal, see <a href="#">“Changing CrashGuard settings”</a> on page 28.

## Understanding your recovery options

Each crash can occur for a different reason, leaving different conditions afterward. Sometimes a program does not respond to the keyboard, so you have to use the mouse to save your work. After another crash, the mouse stops working but the keyboard still responds, so you can save using the keys.

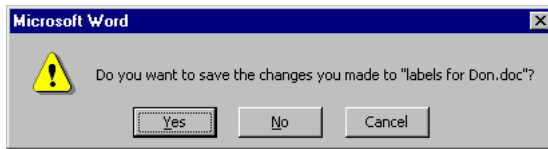
Because of this, no one recovery method works best for every crash. Depending on the crash or freeze, Crash Assistant gives you access to VitalSave, QuickReload, Revive, AntiFreeze, or Terminate. Your best defense is to be familiar with all of the recovery options and understand the impact of the crash on your file, your program, and the rest of your system.

### VitalSave

When your program crashes, usually the most important thing on your mind is saving your data. When you use VitalSave, CrashGuard tells the crashed program to save your file and closes the program as well.

When you use VitalSave, you will see it behaves similarly to a program that you closed without first having saved your file. When you accidentally close a program without first saving the file you have open in it, the program prompts you to save the file and displays a message like the one

below. VitalSave helps your program save your file. If your program prompts you to save your file, respond to it as you normally would.



After you use VitalSave, Crash Assistant asks if you would like to restart the program that crashed so you can easily return to your work.

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**Note:** This option is not available for all programs. In the event of a browser crash, CrashGuard's QuickReload option replaces VitalSave.

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## QuickReload

Web browsers crash for many different reasons. Sometimes the programs crash internally. Other times the pages you visit cause the crashes. If you visit some of the more complicated web sites on the Internet, you might spend a lot of time searching for that one page you need. If your browser crashes, all that time and effort is lost. CrashGuard's QuickReload feature lets you safely close down your browser, and restart it with the page you last visited. This saves you time by returning to the last URL.

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**Note:** If the browser crashes again because of the page you were visiting, CrashGuard tries to return you to a previously-visited URL or your home page.

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## Revive

Sometimes when a program crashes, all you care about is getting back to the file. If you are printing a document for an important meeting and you do not have time to redo any work, restart Windows, or even restart the program, Revive will return you to the program so you can try to finish the task you were doing.

If you choose Revive, be aware that although this might return you to the program, the program's controls and functionality might be impaired or might not work at all. Even if the program appears to function normally after you Revive it, you should save your work immediately. Revive is a

good option when you absolutely need to return to the file and VitalSave is not available as an option.

### AntiFreeze

When a program stops working properly, but its window still appears on your screen, the program is frozen. It does not seem to respond to input from you or from Windows. The easiest way to spot a frozen application is that the program appears to be functioning normally, but it does not let you interact with it.

Before AntiFreeze, your only option was to press Ctrl+Alt+Del and close the frozen program, losing your work and possibly corrupting your file. AntiFreeze tries to unfreeze the program, giving control back to you.

### FreezeCheck

Sometimes a program crashes because another program is frozen, or a crash in one program induces a freeze in another. If you suspect one or more of your programs are not working correctly, use FreezeCheck to get access to your recovery options, like VitalSave, AntiFreeze, and Terminate.

FreezeCheck is available through CrashGuard's main window, by double-clicking the CrashGuard in the system tray, and in Crash Assistant when it is an appropriate choice. FreezeCheck is also available after a crash, in case you experience more problems.

### Terminate

Terminate is the same as the Close option Windows gives you when a program crashes. If you have a file open in the crashed program, the information you entered since your last save will be lost.

Even though Terminate does not sound like much of an option to you, there are times when it is best to terminate a crashed program, than to deal with the consequences of further crashes. When you experience a crash in one program, that same crash can eventually cause your entire system to become unstable. This is something you want to avoid if you have an important document open in another program.

Terminate is often the best option when the data you have open in the crashed program is not important or urgent, or if you have not yet made any changes to the open file.

After you use Terminate, Crash Assistant asks if you would like to restart the program that crashed so you can easily return to your work.

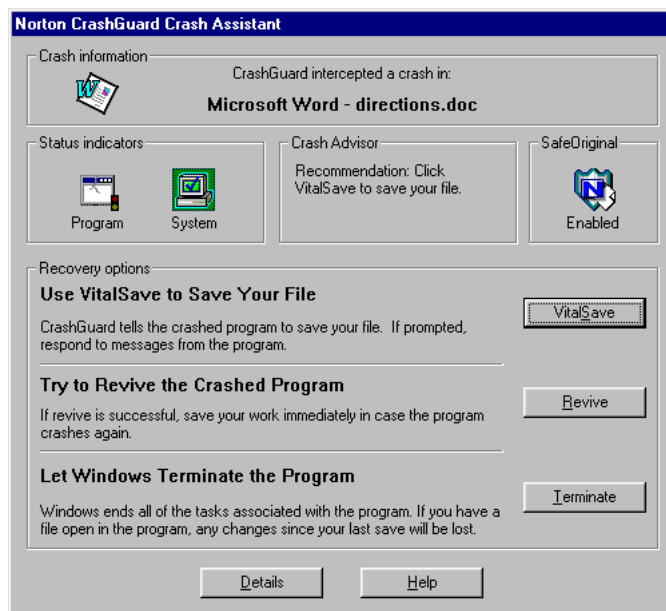
## Walking through the crash experience

### Saving a file in a crashed program

Many popular programs save individual files that store your data. These programs range from word processors and spreadsheet programs, to graphics programs and some games. An example of a file Microsoft Word might create is PROPOSAL.DOC. The following example shows you one scenario of how to recover from a crash in a program that saves a file.

**Goal:** To save the open Microsoft Word document.

Imagine yourself busily working on a document file in Microsoft Word when Crash Assistant appears on the screen to help you recover from the crash.

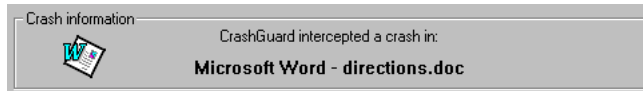


- 1 Identify the program that crashed.

Crash Assistant displays the name of the program that crashed in the Crash Information section. In this scenario, the program is Microsoft



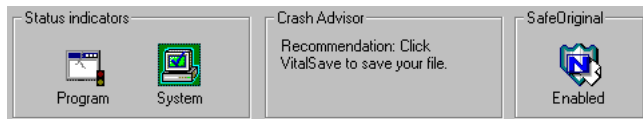
Word. Therefore, any files you have open in Word might be affected by this crash.



See “[Prioritizing what to save first](#)” on page 24 if the program is not the one you are currently using.

## 2 Check the status indicators.

These indicators display how impaired the program and your system are. They also tell you whether SafeOriginal is enabled or disabled. In this crash, your system stability is not in danger and SafeOriginal is enabled.



See “[Program status](#)” on page 35 and “[System status](#)” on page 36 for more information about these status indicators.

## 3 Select a recovery option.

Depending on the crash, Crash Assistant gives you two or three recovery options. Crash Advisor recommends a recovery option based on your program and system status.

- VitalSave saves your file and, in most cases, closes your program. If VitalSave is listed, it is generally the safest option to save your file.
- Revive tries to fix the crash, then returns you to your program. If you choose Revive, be aware that the program’s controls and functionality might be impaired or might not work at all. Even if the program appears to function normally, you should save your work immediately.
- Terminate, which is the same as the Close option Windows gives you, is always one of the options. It closes the program without saving your data.

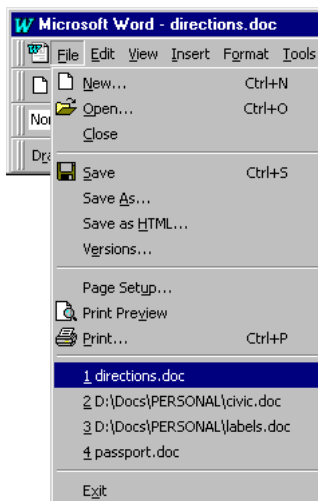
**Recommendation:** Since your goal is to save the file, click VitalSave. Respond to the program if it prompts you to save your file.

## 4 Restart the program or Windows.

Crash Assistant gives you the option to restart the program or Windows. Since crashes can impair other parts of your system, it is a good idea to restart Windows if you experience other problems.

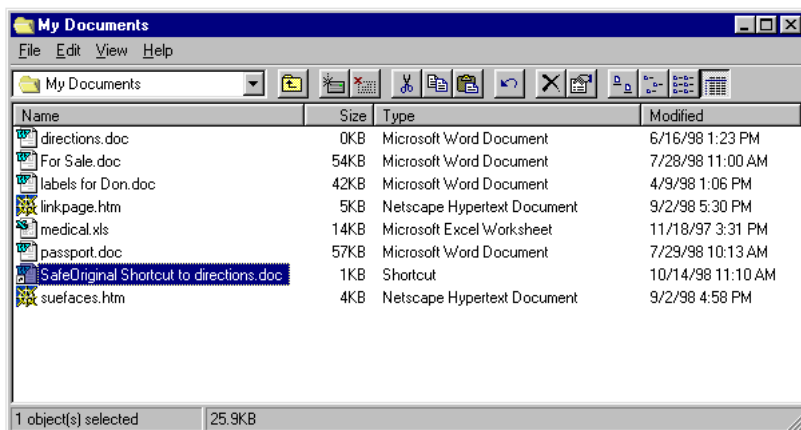
### 5 Reopen the file.

It is always a good idea to reopen the file that crashed and make sure your changes were saved. Many programs place the last-accessed files in the File menu. To save time looking for the file you were working on, open your file as shown below.



### 6 Check the SafeOriginal file.

If the file was damaged during the crash, open the SafeOriginal file to see if the changes are there. CrashGuard places a link to the SafeOriginal file in the same location as the original file.



## 7 Save the SafeOriginal file.

If the SafeOriginal file contains information you need, you should save it to another location since SafeOriginal deletes its files based on the number of days specified in settings. If the original is corrupted, save the SafeOriginal file over the original file. See [“Using SafeOriginal to recover your data”](#) on page 48 for more information about how to use SafeOriginal.

## Recovering from a crash in your web browser

Web browsers behave slightly differently than programs that save files. When your browser crashes, returning to the web page you were visiting is what is important to you, not saving a file.

**Goal:** To return to the same page in Netscape Navigator.

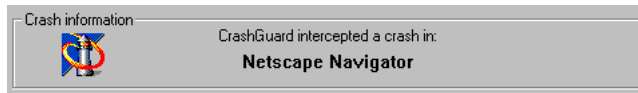
Imagine looking for the perfect home using your real estate agents online database. You finally found the house of your dreams and your web browser crashes.



## 1 Identify the program that crashed.

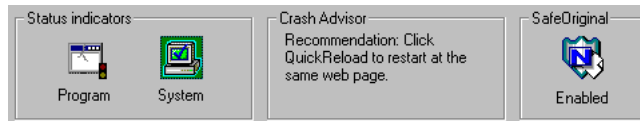
Again, you should verify the program that crashed. In this example, the program is Netscape Navigator. Because it is a web browser, you

are not as concerned with saving a file, but you do not want to retrace the steps you took to find this page.



- 2 Check the program and system status indicators.

Like you did in the last example, the next thing you should do is read the status indicators to see how impaired the program and your system are. In this scenario, your system stability is not in danger.



See “[Program status](#)” on page 35 and “[System status](#)” on page 36 for more information about these status indicators.

- 3 Select a recovery option.

Your recovery options are similar to the last crash, but QuickReload replaces VitalSave.

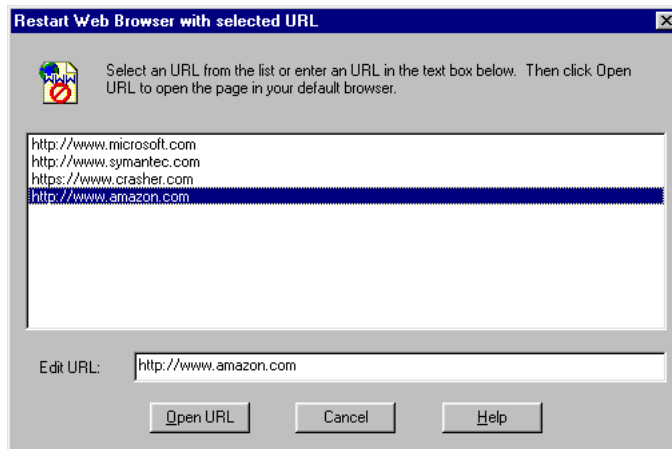
- QuickReload closes your browser and reloads it with the last page you visited.
- Revive tries to fix the crash, then returns you to your program. If you choose Revive, be aware that the program’s controls and functionality might be impaired or might not work at all.
- Terminate closes the program. If you have important data unsaved in another open program, getting back to your browser might be less important than the unsaved data in the other program, so Terminate is a good option.

**Recommendation:** Since your goal is to return to the same page in your browser, click QuickReload.

- 4 Expect more problems.

If Crash Assistant experiences more problems when it tries to reload the web page, it displays a window requesting that you select another page. Since pages themselves can cause your browser to

crash, selecting another page or viewing that page in another browser could solve the problem.



Since crashes can impair other parts of your system, it is a good idea to restart Windows if you experience other problems. If you choose to restart Windows, Crash Assistant helps you restart the program that crashed.

## Handling a crash when you want to keep working

When your highest priority is to return to the crashed program and continue working, you might treat the crash differently. For example, if you must finish a document for a meeting that starts in five minutes and you have only one more paragraph to type, you do not have time to restart the program or Windows, you just want to get back to the program.

A Revived program might appear to be functioning normally, but it could still be experiencing problems. So even though returning to a crashed program is not always a safe thing to do, CrashGuard gives you the option so you can make the decision yourself.

**Goal: To return to the program and continue working.**

- 1 Follow the same steps as the previous examples, finding out what program crashed and making sure your system is stable.

If your system indicator indicates your system is unstable, you need to weigh that information with how necessary it is for you to continue working.

- 2 Select a recovery option.
  - VitalSave saves your file and, in most cases, closes your program. If VitalSave is listed, it is generally the safest option to save your file.
  - Revive tries to fix the crash, then returns you to your program. If you choose Revive, be aware that the program's controls and functionality might be impaired or might not work at all. Even if the program appears to function normally, you should save your work immediately.
  - Terminate closes the program without saving your data.

**Recommendation:** Since your goal is to return to the program and continue working, click Revive. Return to the program and save your work immediately. See “[Learning alternate ways to save your work](#)” on page 25 if you have trouble saving your file.

- 3 Expect more problems.

If Crash Assistant encounters more problems with the program, it continues to fix them unless the problems get worse or your system stability changes. When this happens, Crash Assistant reappears to help you through the crash.

- 4 Save your file immediately. The program might let you continue working, or it might crash again.

Since the likelihood of another crash increases after the first crash, you should restart the program that crashed at your earliest convenience.

## Diagnosing problems when an alarm does not appear

If you notice your computer is not functioning properly, like a program appears on the screen, but it does not react to input from you, use FreezeCheck to help solve the problem.

**Goal:** To unfreeze a frozen program.

When you suspect a program on your computer is frozen or not functioning properly, follow the steps outlined below to find the problem.

- 1 Open FreezeCheck.

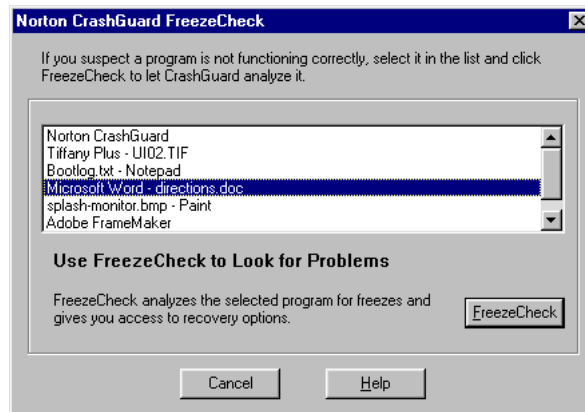
FreezeCheck is easily accessible from three different places. The easiest way to access it is to double-click the Crash Monitor icon in your taskbar.

Crash Monitor icon



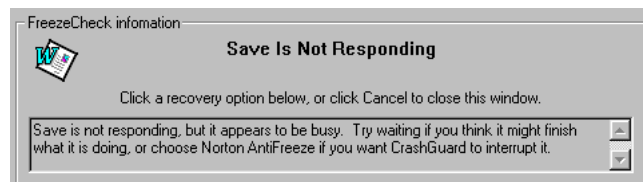
You can also press Ctrl+Alt+Del on your keyboard or select FreezeCheck in CrashGuard's main window.

- 2 Select the frozen program in the list and click FreezeCheck.



- 3 Read the FreezeCheck information.

This tells you CrashGuard's diagnosis of the problem. The program might be frozen, or it might be busy completing a task.



- 4 Select a recovery option.
  - Your recovery options are similar to crash recovery options, but AntiFreeze replaces Revive. Depending on the program that is frozen, VitalSave or QuickReload might appear as well.
  - AntiFreeze tries to unfreeze the frozen program and return control of the program to you. If you choose AntiFreeze, be aware that the program's controls and functionality might be impaired or might not work at all. Even if the program appears to function normally, you should save your work immediately.

- Terminate closes the program without saving your data.

**Recommendation:** Since your goal is to unfreeze the frozen program, click AntiFreeze. Return to the program and save your work immediately.

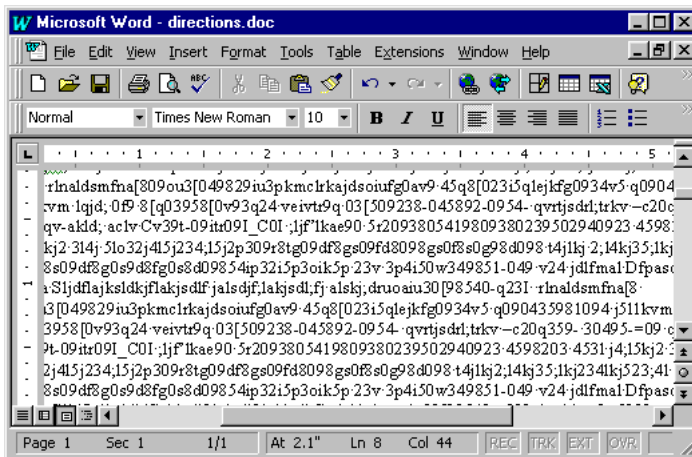
- 5 Expect more problems.

Once you have saved your file or completed the task you needed to finish, close the program and restart it to stop related problems before they start. If you do experience more problems with the program, try another recovery option, or even try the same recovery option again. If you continue to experience severe problems, consider Terminating the program and restarting Windows.

## Using SafeOriginal to recover your data

During a crash, if the offending program tries to write to your file, SafeOriginal creates a read-only copy of the file and places it in the SafeOriginal folder. This file might not contain all of your changes, but it does save you from recreating the entire file.

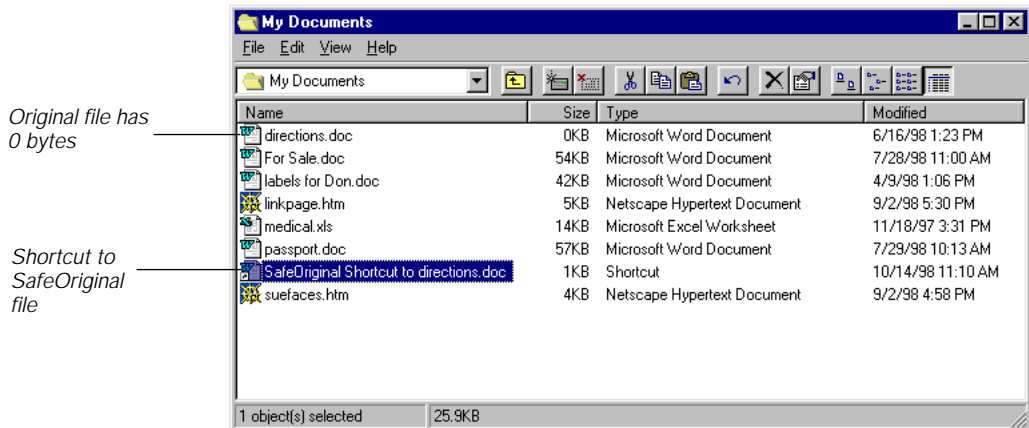
If you open your file and discover your data is corrupted like shown below, use the SafeOriginal copy to see how much work you lost.





### To open your SafeOriginal file:

- 1 Use Explorer to navigate to the folder when the original file was saved. For example, the file DIRECTIONS.DOC might be saved in your C:\My Documents folder.



When SafeOriginal creates a copy of a file, it places a shortcut to the new file in the original location. In this example, SafeOriginal places a shortcut to:

C:\Program Files\Norton CrashGuard\SafeOrig\DIRECTIONS.DOC  
in the C:\My Documents folder.

- 2 Double-click the shortcut to open the SafeOriginal file.
- 3 Save the file to another location.

If the SafeOriginal file contains information you need, you should save it to another location since SafeOriginal deletes its files based on the number of days specified in settings. If the original is corrupted, it is a good idea to save the SafeOriginal file over the original file.



# Symantec Service and Support Solutions

Symantec is committed to excellent service worldwide. Our goal is to provide you with professional assistance in the use of our software and services, wherever you are located.

Technical Support and Customer Service solutions vary by country. If you have questions about the services described below, please refer to the section “Worldwide Service and Support” at the end of this chapter.

## Registering your Symantec product

To register your Symantec product, please complete the registration card included with your package and drop the card in the mail. You can also register via modem during the installation process (if your software offers this feature) or via fax to (800) 800-1438 or (541) 984-8020.

## Technical support

Symantec offers an array of technical support options designed for your individual needs to help you get the most out of your software investment.

## World Wide Web

The Symantec World Wide Web site (<http://service.symantec.com>) is the doorway to a set of online technical support solutions where you will find the following services:

### Interactive problem solver

Symantec’s online interactive problem solver (known as the Support Genie) helps you solve problems and answer questions about many Symantec products.

## Product knowledgebases

Product knowledgebases enable you to search thousands of documents used by Symantec Support Technicians to answer customer questions.

## FAQs

Frequently Asked Questions documents, also known as FAQs, list commonly asked questions and clear answers for specific products.

## Discussion groups

Discussion groups provide a forum where you can ask questions and receive answers from Symantec online support technicians.

## FTP

Point your web browser to <http://service.symantec.com> to search for and download technical notes and software updates. You can also click the LiveUpdate button in programs enabled with this feature to automatically download and install software updates and virus definitions.

Other Symantec support options include the following:

<b>America Online</b>	Type Keyword: SYMANTEC to access the Symantec forum.
<b>CompuServe</b>	Type GO SYMANTEC to access the Symantec forum.
<b>Symantec BBS</b>	Set your modem to 8 data bits, 1 stop bit, no parity and dial (541) 484-6669.
<b>Automated fax retrieval system</b>	To receive general product information, fact sheets and product upgrade order forms directly to your fax machine, please call our Customer Service fax retrieval system at (800) 554-4403 or (541) 984-2490.  For technical application notes, please call our Technical Support fax retrieval system at (541) 984-2490 and select option 2.
<b>StandardCare Support</b>	If you can't access the Internet, take advantage of your 90 days of free telephone technical support (from the date of your first call) at no charge to all registered users of Symantec software. The StandardCare Support telephone number is 541-465-8660.

**PriorityCare and  
PlatinumCare  
Support**

Expanded telephone support services are available to all registered customers. The PriorityCare and PlatinumCare Support telephone numbers are 800-927-3995 and 900-646-0033.

## Support for old and discontinued versions

When a new version of this software is released, registered users will receive upgrade information in the mail. Telephone support will be provided for the previous version for 6 months after the release of the new version. Technical information may still be available through online support.

When Symantec announces that a product will no longer be marketed or sold, telephone support will be discontinued 60 days later. Support will only be available for discontinued products through online services. See the section “Technical support” for online service options.

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- Order an upgrade.
- Subscribe to the Symantec Support Solution of your choice.
- Fulfill your request for product literature or demonstration disks.
- Find out about dealers and consultants in your area.
- Replace missing or defective CDs, disks, manuals, etc.
- Update your product registration with address or name changes.

You can also visit Customer Service online at [www.symantec.com/custserv](http://www.symantec.com/custserv) for the latest Customer Service FAQs, to find out the status of your order or return, or to post a query to a Customer Service discussion group.

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# Norton CrashGuard™

## Disk Exchange and/or Replacement Form

**DISK EXCHANGE:** Norton CrashGuard is available on 3.5" high-density disks. If you purchased a product that does not contain the correct disk size for your computer, you may exchange the disk. Fill out Section A and return 1) this form, 2) your original disk, 3) a shipping and handling payment of \$9.95, to the address below.

**DISK REPLACEMENT:** After your 60-Day Limited Warranty, if your disk or CD-ROM becomes unusable, fill out Sections A & B and return 1) this form, 2) your damaged disk, 3) your payment (see pricing below, add sales tax if applicable), to the address below to receive replacement disks. *DURING THE 60-DAY LIMITED WARRANTY PERIOD, THIS SERVICE IS FREE.* You must be a registered customer in order to receive disk replacements.

### SECTION A - FOR DISK EXCHANGE AND REPLACEMENT

Please send me: \_\_\_ 3.5" high-density disk (exchange/replacement) \_\_\_ CD-ROM (replacement)

Name \_\_\_\_\_

Company Name \_\_\_\_\_

Street Address (No P.O. Boxes, Please) \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_

Country\* \_\_\_\_\_ Daytime Phone \_\_\_\_\_

Software Purchase Date \_\_\_\_\_

\*This offer limited to U.S., Canada, and Mexico. Outside North America, contact your local Symantec office or distributor.

### SECTION B - FOR DISK REPLACEMENT ONLY

Briefly describe the problem: \_\_\_\_\_

Disk Replacement Price \$ 10.00  
Sales Tax (See Table) \_\_\_\_\_  
Shipping & Handling \$ 9.95  
TOTAL DUE \_\_\_\_\_

**SALES TAX TABLE:** AZ (5%), CA (7.25%), CO (3%), CT (6%), DC (5.75%), FL (6%), GA (4%), IA (5%), IL (6.25%), IN (5%), KS (4.9%), LA (4%), MA (5%), MD (5%), ME (6%), MI (6%), MN (6.5%), MO (4.225%), NC (6%), NJ (6%), NY (4%), OH (5%), OK (4.5%), PA (6%), SC (5%), TN (6%), TX (6.25%), VA (4.5%), WA (6.5%), WI (5%). Please add local sales tax (as well as state sales tax) in AZ, CA, FL, GA, MO, NY, OH, OK, SC, TN, TX, WA, WI.

### FORM OF PAYMENT \*\* (Check One):

\_\_\_ Check (Payable to Symantec) Amount Enclosed \$ \_\_\_\_\_ \_\_\_ Visa \_\_\_ Mastercard \_\_\_ American Express

Credit Card Number \_\_\_\_\_ Expires \_\_\_\_\_

Name on Card (please print) \_\_\_\_\_ Signature \_\_\_\_\_

\*\*U.S. Dollars. Payment must be made in U.S. dollars drawn on a U.S. bank.

### MAIL YOUR DISK EXCHANGE AND/OR DISK REPLACEMENT ORDER TO:

Symantec Corporation  
Attention: Order Processing  
175 West Broadway  
Eugene, OR 97401-3003

Please allow 2-3 weeks for delivery within the U.S.

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