Norton CrashGuard 3.0

CrashGuard runs in the background and monitors your system for crashes. It recovers from the crash and lets you save any unsaved data.

Anti-Freeze

Anti-Freeze unfreezes a frozen application; a program that is still on your screen but is not responding to input from you or Windows. When you notice that an application is frozen, you can pop up Anti-Freeze and unfreeze the application.

Settings

Lets you select the types of crashes CrashGuard intercepts. You can choose to protect your PC from crashes caused by 16-bit applications, 32-bit applications, or both. This option also lets you trigger any type of crash to test the ability of CrashGuard (or any other crash-protection program) to recover from the resulting crash.

Statistics or Log book

Opens an activity log of the crashes and freezes CrashGuard has intercepted on your computer. It also gives you information about the programs that caused the crashes and freezes.

Note
- If you received Norton CrashGuard bundled with a Symantec product that supports Norton Log Book, the Statistics control in the CrashGuard shield is replaced with Log Book.

Click here   {button ,AL(`crashguard;exceptions',0,`',`')}   for related information.

To specify CrashGuard settings

1 Click here 🔃 to start Norton CrashGuard.

2 Click Settings.

3 Select Enable 32-Bit Crash Protection to trap and fix crashes caused by 32-bit applications.

Programs designed for Windows 3.1x are generally 16-bit applications. Some hardware drivers are 16-bit as well. Select Enable 16-bit Crash Protection if you would like CrashGuard to trap crashes in these applications as well.

4 Select Add Anti-Freeze to Ctrl+Alt+Del to add Anti-Freeze to Close Program dialog box. (The Close Program dialog box appears when you press Ctrl+Alt+Del.)

5 Click Advanced to test CrashGuard's crash protection or view crash statistics. Then click Close.

6 Click OK to apply the changes and return to the main window.

Note
For Windows NT, you cannot add Anti-Freeze to the Close Program dialog box.

Click here   {button ,AL(`crashguard;exceptions',0,`',`')}   for related information.

To add Anti-Freeze to the Close Program window

1   Click here to start Norton CrashGuard.

2   Click Settings.

3   Select Add Anti-Freeze to Ctrl+Alt+Del to add Anti-Freeze to Close Program dialog box. (The Close Program dialog box appears when you press Ctrl+Alt+Del.)

4   Click OK to apply the changes and return to the main window.

Note
For Windows NT, you cannot add Anti-Freeze to the Close Program dialog box.

Click here   {button ,AL(`crashguard;settings',0,`',`')}   for related information.

What is a crash?

Crash is a term often used to describe 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. In Windows 95, when an application tries to do something it should not do, Windows 95 prevents the error from disturbing other applications but stops the offending application. Unfortunately, the only option Windows 95 gives you is to close down the offending application. Any unsaved data the application had open will be lost.

CrashGuard monitors Windows for crashes, intercepts those crashes, and gives you more options for dealing with the offending application and the data it holds.

Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

What is an exception?

Throughout CrashGuard you will see the term exception. Exception is a technical programming term for a serious error that makes it impossible for a program to continue normally.

Many errors, such as trying to open a nonexistent file or save to a full floppy disk, are not exceptions because the program can simply tell you that a problem occurred and then continue. Even if a program asks the operating system to do something wrong, the operating system tells the program that the action was not taken, and the program can continue.

An exception, on the other hand, occurs if a program tries to perform an undefined instruction. The program cannot continue because the operating system does not know where to find the next valid instruction in the program. Exceptions can result from many different malfunctions, but in every case, the computer does not know what to do next.

A program can try to handle exceptions itself by using its own exception-handling routine, which essentially tells Windows 95 the instructions for dealing with the emergency. Even so, the program can only deal with those exceptions for which it was specifically prepared and only if it knows how to resolve the problem.

CrashGuard can protect your system against exceptions generated by both 16-bit and 32-bit applications, as well as exceptions the operating system and other programs are not prepared to deal with.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

Fixing crashes

If the application that crashed was working with data that you need to save, select Fix. CrashGuard tries to recover from the crash and keep the application running. If you select this option, you should save your data immediately, exit the application, then restart the application.

Pay close attention to the Prognosis information. In many situations, when CrashGuard catches the crash, there is a very good chance that CrashGuard can return the program to a point where you can save your work. For example, if a green light appears in the Prognosis area, you might be able to save your work after you click Fix Program.

When a red light appears, it is likely that your system will crash if you click Fix Program. In these situations, it is a good idea to click Close Program unless you really need to save your work.

To fix a crashed application
▶ If the application that crashed was working with data that you need to save, select Fix Program to have CrashGuard fix the problem. Return to the application, save the data it was working with, and exit the application.

Tip
After CrashGuard fixes an application, if the save function of the application does not work properly, try selecting all the data in the file and copying it to the Windows clipboard. Close the application, restart it, and then paste the clipboard contents into a new, blank workspace.

Click here   {button ,AL(`crashes;crashguard',0,`',`')}   for related information.

Closing crashed applications

If the application that crashed was not working with data that you need to save, click Close. This closes the crashed application, removing it from memory, and loses any data that the application was working with. This might be an appropriate option for applications like games, file viewers, or search utilities that merely read data and do not modify it or write it back to disk.

To close a crashed application

▶   If the application that crashed was not working with data that you need to save, click Close Program to close the application. Any data that the application was working with will be lost.

Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

To view crash statistics

▸ Right-click the CrashGuard icon in the Windows taskbar. Then select Statistics in the menu that appears.

Note

The applications named Test16 and Test32 are CrashGuard's exception-generating programs that are run when you click Test in one of the Crash Test dialog boxes. If either application shows up in this list, those crashes were probably not encountered during normal computing.

Click here   {button ,AL(`crashes;crashguard',0,`',`')}   for related information.

To view and save crash details

▸ Right-click the CrashGuard icon in the Windows taskbar. Then select Statistics in the menu that appears.

Note

The applications named Test16 and Test32 are CrashGuard's exception-generating programs that are run when you click Test in one of the Crash Test dialog boxes. If either application shows up in this list, those crashes were probably not encountered during normal computing.

Click here   {button ,AL(`crashes;crashguard',0,`',`')}   for related information.

What is a frozen application?

Sometimes a program stops working properly, but its window still appears on your screen. When this happens, the program is frozen; it does not seem to respond to input from you or from Windows95. 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.

For example, you use your word processor to save a large document, and after a few moments you notice that it is taking much longer than you expected. You try to type a few words and nothing happens. Your mouse might not work either. When this happens, your word processor is frozen.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

16-bit exceptions

Norton CrashGuard traps crashes caused by the following 16-bit <u>exceptions</u>:

General Protection Fault

The program tried to examine data that is off-limits or does not exist.

Invalid Opcode

The program tried to execute an instruction that is not recognized by the processor.

Divide By Zero

The program tried to divide a number by 0. This is an arithmetic problem for which there is no solution, so the computer cannot calculate the result.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

32-bit exceptions

Norton CrashGuard traps crashes caused by the following 32-bit <u>exceptions</u>:

Access Violation

The program tried to examine invalid data. This means that there is either no information at that location, or the information is off-limits to the program.

Array Bounds Exceeded

The program tried looking off the end of an array. In other words, the program looked off the end of a finite-sized table it has in memory.

Data Type Misalignment

Some programs use data type-alignment to ensure the program knows what type of data it is using. Such programs will stop with this error if they try using the wrong type of data.

Float Denormal Operand

The program performed arithmetic using numbers too small to be represented in the normal way. Such numbers are called "denormalized" numbers.

Float Divide By Zero

The program tried to divide a real number by 0. This is an arithmetic problem for which there is no solution, so the computer cannot calculate the result.

Float Inexact Result

The program tried solving an arithmetic problem for which the result cannot be precisely recorded using the computer's binary number system.

Float Invalid Operation

The program attempted invalid arithmetic, such as calculating the square root of -1 or dividing infinity by infinity.

Float Overflow

The program tried solving arithmetic which lead to numbers too large to be recorded in the computer's binary number system.

Float Stack Check

The program used up all of the math processor's internal storage space. This error can also occur if a program tries to get more numbers from the math processor's storage after it has been emptied.

Float Underflow

The program performed arithmetic which yielded denormalized (too small to represent) results.

Illegal Instruction

The program sent the CPU an instruction that is undefined. This means the program uses a code number which does not correspond to any known operation.

In Page Error

(<u>Simulated</u>) This error occurs if Windows temporarily stores away some of a program's data on disk and then cannot get it back when it is needed again.

Integer Divide By Zero

The program tried to divide the number 1 by 0. This is an arithmetic problem for which there is no solution, so the computer cannot calculate the result.

Integer Overflow

The program tried to solve arithmetic which lead to numbers too large to be recorded in the computer's binary number system.

Invalid Disposition

(<u>Simulated</u>) The program tried to solve another error for itself, but did not tell the system how it should then proceed.

Non-Continuable Exception

(<u>Simulated</u>) The program tried to continue after a serious error without fixing the problem which caused the error.

Privileged Instruction

The program tried to perform an operation that it does not have the right to do. For stability's sake, many important operations can only be performed by the system.

Stack Overflow

The program used up all of the stack-type memory allotted to it. The stack refers to a program's short-term memory.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

Answers to common questions

Where can't CrashGuard catch a crash?

Although CrashGuard catches every type of crash, it cannot catch crashes in all locations within KERNEL32.DLL, VxDs, and certain device drivers. Certain errors must be handled by the system.

Why can't CrashGuard fix every crash it catches?

CrashGuard can try to fix any crash it intercepts, but the damage might not be repairable. Frequently, an application cannot continue because:

- It crashed **after** it has corrupted its data.
- It cannot continue until some event occurs, but that event was interrupted by the crash.
- It is a 16-bit application which has destroyed its stack.

When does Anti-Freeze not work?

As when fixing crashes, Anti-Freeze cannot help an application if:

- It froze **after** corrupting its own data.
- It has set itself into a special state which it cannot clear.
- It does not know how to proceed because a required action was not completed.

How safe is CrashGuard?

CrashGuard is extremely safe.

- The 16-bit exception handler is also very safe in that it performs no background activity, does not hook onto other processes, and does not subclass
– it is only called by Toolhelp (a part of Windows) when a crash occurs in a 16-bit application.
- The application associated with the icon in the taskbar does nothing but bring up a menu when it is selected.

Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

About Anti-Freeze

Anti-Freeze is a program that can unfreeze a frozen application－a program that was running and is still on your screen but is not responding to input from you or Windows.
When you notice that an application is frozen, you can pop up Anti-Freeze and unfreeze the application.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Using Anti-Freeze

Anti-Freeze unfreezes a frozen application―a program that was running and is still on your screen but is not
responding to input from you or Windows.
When you discover that your application is frozen, Anti-Freeze might be able to unfreeze the application.
Recovering from crashes and freezes
When you use CrashGuard and Anti-Freeze to recover from crashes and freezes, **never** assume that everything is
back to normal. The crash or freeze could be a symptom of more serious problems with the application. In general,
you should:
- Save your work as best you can.
- Close the application.
- Restart the application.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Saving your work

Follow these tips when saving your work

- Because your document or data file might have been damaged by the crash or freeze, you should first try to save your work into a new file using the Save As command (in the File menu of most applications). This way, the original file, which might still be sound, will remain intact.
- If Save As does not work, try the Save command. But be aware that, even if the save seems to succeed, the next time you try to open the document, it might not open because of the possible damage, or it might need extensive repair.
- If the Save or Save As commands do not work, try selecting the entire document (many applications have a Select All command in the Edit menu) and copying it to the clipboard with the Copy command (in the Edit menu of most applications). If you close the program and start it again (without shutting down Windows) you should be able to paste your work from the clipboard into a new blank workspace.
- Some programs include an Export command (often In the File or Tools menu), which might let you save your document in a different format. If an application has an Export command, it will likely have a corresponding Import command that you can use to reclaim your work after you exit the application.
- If none of these techniques work, you can try printing your document, or at the very least, copying it manually.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Dealing with partially disabled applications

Follow these tips to work with partially disabled applications

- Some freezes might be only partial; for example, the application might stop responding to the keyboard, but will still respond to the mouse. Try clicking the application's menu, since that is the portion most likely to work and probably contains the commands you need most, such as Save, Copy, and Export.
- After a freeze or crash, some parts of a program might stop responding while other parts still work. If the program was showing a dialog box at the time of the malfunction, try clicking its Cancel button or pressing Esc to make it go away. Do not click other controls unless you really need them, since they might be part of the malfunction.
- Sometimes the shape of the mouse cursor can become frozen and its functionality will be other than what its shape indicates. If the mouse cursor is an hourglass (or some other special-purpose shape), try clicking the application anyway.
- As you try to recover, some commands or controls might cause the program to crash or freeze. But CrashGuard and Anti-Freeze should catch those problems too, so just keep trying until you manage to save your work by one of the methods above.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Opening Anti-Freeze

To launch Anti-Freeze from the desktop
- Right-click the CrashGuard icon in the taskbar and select Anti-Freeze.
- The Anti-Freeze dialog box appears, listing all the programs you can apply Anti-Freeze to.
- Select the program which is not responding and click Unfreeze to apply Anti-Freeze to it. If the program does not start responding, or if it immediately freezes again, you can apply Anti-Freeze again.

To activate Anti-Freeze when the system does not respond
- Press Ctrl+Alt+Del once. After a pause, Windows displays the Close Program dialog box which lists all running programs. If you are running Windows NT, see the note below.
- If you select a program in the list which is appropriate for the use of Anti-Freeze, the Anti-Freeze button will be enabled. Anti-Freeze does not operate on certain hidden system programs or drivers.
- If one of the programs is labeled [Not Responding] you should concentrate on it first. A single frozen application can cause the entire system to freeze. This is called **blocking**, and it occurs because the system is waiting for that program to finish a particular action.

Note
Pressing Ctrl+Alt+Del to access Anti-Freeze is not an option under Windows NT. Anti-Freeze is always accessible in the menu that appears when you right-click the CrashGuard icon in the taskbar.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

To exit CrashGuard

1   Right-click the CrashGuard icon ▪ in the taskbar.

2   Select Exit. A dialog box appears and ask you to confirm that you want to close CrashGuard.

Notes
▪   Closing CrashGuard this way removes it from memory and prevents it from protecting your system against crashes. (To restart CrashGuard, see <u>Opening CrashGuard</u>.)
▪   If a running program has become dependent on CrashGuard to keep operating, CrashGuard continues to provide protection to that particular program until it closes.

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Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

Closing frozen applications

Sometimes an application cannot be satisfactorily unfrozen. (For example, an application might freeze because the data it is working with has been damaged. Anti-Freeze might unfreeze the application but then the application immediately freezes again because of the damaged data.) In such cases, you might need to close the frozen application.

To close frozen applications

1   Press Ctrl+Alt+Del to display the Close Program dialog box.

2   Select the frozen application in the list of running applications. Look for [Not Responding] next to the program name.

3   Click End Task.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Unfreezing applications with Anti-Freeze

1   Click here ▪ to start Norton CrashGuard.

2   Click select Anti-Freeze in the CrashGuard shield.

3   In the list of running applications, select the <u>frozen application</u>. It will probably include [Not Responding] in the label.

**4**   Click Unfreeze to unfreeze the application so that you can save any unsaved data.

   You might need to click Unfreeze a few times to unfreeze the program. If this procedure does not unfreeze the application, see <u>Closing frozen applications</u>.

Note
▪   If none of the applications in the list include [Not Responding], your application might not be frozen. You might want to close Anti-Freeze and wait a little longer to see if your application starts responding again.

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Opening CrashGuard

Installing CrashGuard sets it up to run every time you run Windows, providing you with constant protection from system crashes. CrashGuard is running if you can see the CrashGuard icon ▪ in the taskbar. If it is not running, you can open it anytime.

To open CrashGuard
- ▪   Click here to
- ▪ open Norton CrashGuard.

Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

Testing CrashGuard

You can use CrashGuard to generate 16-bit or 32-bit <u>exceptions</u>. This lets you test the ability of CrashGuard (or any other crash-protection software) to trap that type of crash and recover.

To test CrashGuard

1   Right-click the CrashGuard icon ▪ in the taskbar, then select Open. The CrashGuard shield appears.

2   Click Settings. Then click Advanced.

3   To generate either a 16-bit exception or a 32-bit exception, click the corresponding Test button.

4   Select the type of exception you want to generate. Then click Generate.

Click here   {button ,AL(`crashguard',0,`',`')}   for related information.

Norton CrashGuard 3.0 dialog box

CrashGuard runs in the background and monitors your system for crashes. It recovers from the crash and lets you save any unsaved data.

Anti-Freeze

Anti-Freeze unfreezes a frozen application－a program that is still on your screen but is not responding to input from you or Windows. When you notice that an application is frozen, you can pop up Anti-Freeze and unfreeze the application.

Settings

Lets you select the types of crashes CrashGuard intercepts. You can choose to protect your PC from crashes caused by 16-bit applications, 32-bit applications, or both. This option also lets you trigger any type of crash to test the ability of CrashGuard (or any other crash-protection program) to recover from the resulting crash.

Statistics or Log Book

Opens an activity log of the crashes and freezes CrashGuard has intercepted on your computer. It also gives you information about the programs that caused the crashes and freezes.

Note

If you received Norton CrashGuard with another Symantec product that supports Norton Log Book, such as Norton CrashGuard Deluxe, the Statistics control in the main CrashGuard shield is replaced with Log Book.

Click here   {button ,AL(`crashes;crashguard',0,`',`')}   for related information.

16-bit Crash Test dialog box

Use this dialog box to generate any of the 16-bit <u>exceptions</u> listed. This tests CrashGuard's ability to trap and fix the resulting crash.

To generate an exception

1   Select the exception you want to generate.

2   Click Generate.

Note
As you select each exception, a detailed description of it appears near the bottom of the dialog box.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

32-bit Crash Test dialog box

Use this dialog box to generate any of the 32-bit <u>exceptions</u> listed. This tests CrashGuard's ability to trap and fix the resulting crash.

To generate an exception

1   Select the exception you want to generate.

2   Click Generate.

Note
As you select each exception, a detailed description of it appears near the bottom of the dialog box.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

CrashGuard Advanced Features dialog box

Use this dialog box to test 16-bit and 32-bit crash protection, and to view CrashGuard statistics, including the number of crashes and freezes CrashGuard has intercepted.

Click Details to view detailed information about the crashes CrashGuard has trapped and the frozen applications it has unfrozen.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

Norton CrashGuard Settings dialog box

Use this dialog box configure CrashGuard's crash protection, test the 16-bit and 32-bit exception handler, and to view CrashGuard statistics.

Crash Protection
- Configure whether CrashGuard traps and fixes crashes caused by 16-bit and 32-bit applications.

    If you do not use any 16-bit applications (for example, older programs written for Windows 3.x), you can leave the Enable 16-bit Crash Protection check box unchecked.

Anti-Freeze
- Enhances the Close Program dialog box (which appears when you press Ctrl+Alt+Del) to include an Anti-Freeze button. This lets you apply Anti-Freeze to a frozen program even if the entire system stops responding.

    The option to add Anti-Freeze to Ctrl+Alt+Del does not appear in the Settings dialog box under Windows NT because Anti-Freeze is always accessible in the menu that appears when you right-click the CrashGuard icon
    - in the taskbar.

Advanced
- Lets you test CrashGuard's 16-bit and 32-bit crash protection, and displays detailed information about CrashGuard statistics.

Click here   {button ,AL(`exceptions',0,`',`')}   for related information.

Norton CrashGuard Statistics dialog box

This dialog box displays:
- How many crashes you have had.
- How many freezes you have had.
- Which applications and modules caused the errors.

Note

The applications named TEST16.EXE and TEST32.EXE are CrashGuard's exception-generating programs that are run when you click Test in one of the Crash Test dialog boxes. If either application shows up in this list, those crashes were probably *not* encountered during "normal" computing.

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Click here   {button ,AL(`crashguard;exceptions',0,`',`')}   for related information.

Norton Anti-Freeze dialog box

Use this dialog box to unfreeze or close a frozen application.

1 In the list of running applications, select the <u>frozen application</u>. (It will probably include "[Not responding]" in the label. See notes.)

2 Click Unfreeze to unfreeze the application so that you can save any unsaved data.
 ▪ If this procedure does not unfreeze the application, see <u>Closing a frozen application</u>

Note
 ▪ If none of the applications in the list include "[Not responding]," your application might not be frozen. You might want to close Anti-Freeze and wait a little longer to see if your application "comes back."

Click here   {button ,AL(`antifreeze',0,`',`')}   for related information.

Click here to test the 16-bit and 32-bit exception handlers, and to view CrashGuard statistics, including the number of crashes and freezes CrashGuard has intercepted.

Anti-Freeze unfreezes a frozen application▪a program that was running and is still on your screen but is not responding to input from you or Windows
When you discover that your application is frozen, Anti-Freeze might be able to unfreeze the application.

Lets you select the types of crashes CrashGuard intercepts, as well as enhancing the Close Program dialog box (which appears when you press Ctrl+Alt+Del) to include an Anti-Freeze button (does not apply to Windows NT). This lets you apply Anti-Freeze to a frozen program even if your entire system stops responding.

Connects you to the Symantec Internet site, downloads the latest CrashGuard updates and patches, and installs them on your PC.

You must have a modem and/or an Internet connection (direct or dial-up) to use LiveUpdate.

Shows you the activity log of crashes and freezes CrashGuard has intercepted.

Shows the number of crashes and freezes CrashGuard intercepted, as well as the programs that caused the crashes and freezes.

Displays the 16-bit Crash Test dialog box from which you can generate 16-bit exceptions. This lets you test the ability of CrashGuard to trap and fix the resulting crash.

Displays the 32-bit Crash Test dialog box from which you can generate 32-bit exceptions. This lets you test the ability of CrashGuard to trap and fix the resulting crash.

Closes the dialog box without generating an exception.

Detailed CrashGuard statistics

This dialog box displays:
- How many crashes you have had.
- How many freezes you have had.
- Which applications and modules caused the errors.

Note

The applications named TEST16.EXE and TEST32.EXE are CrashGuard's exception-generating programs that are run when you click Test in one of the Crash Test dialog boxes. If either application shows up in this list, those crashes were probably not encountered during normal computing.

Displays detailed information about the crashes CrashGuard has trapped and the frozen applications it has unfrozen.

Displays the number of intercepted crashes and unfrozen applications.

Lets CrashGuard trap and fix crashes caused by 16-bit applications.

If you do not use any 16-bit applications (for example, older programs written for Window 3.x), you can leave this unchecked.

Enhances the Close Program dialog box (which appears when you press Ctrl+Alt+Del) to include an Anti-Freeze button. This lets you apply Anti-Freeze to a frozen program even if the entire system stops responding. This option does not apply to Windows NT users.

Lets CrashGuard trap and fix crashes caused by 32-bit applications.

Generates (or simulates) an exception of the type selected in the list above.

Click this to display an overview of this dialog box.

Exception

A serious error that makes it impossible for a program to continue normally.

Frozen application

A software program that was running and is still on your screen, but does not respond to input from you or Windows.

Simulated exception

The CrashGuard Crash Test program simulates this <u>exception</u> and does not actually generate it. Generating the exception either is not possible or would be too dangerous.