

PRB: Access Violation in VB Run-Time Using AddressOf

ID: Q198607

The information in this article applies to:

- Microsoft Visual Basic Learning, Professional, and Enterprise Editions for Windows, version 6.0
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SYMPTOMS

When running your Visual Basic application, you may encounter an error similar to the following:

The instruction at 0x660bd3b1 referenced memory at 0x0000009c. The memory could not be written.

This error may occur immediately following a declared API function call within a Visual Basic callback function.

CAUSE

When the error occurs, the callback function is called by a thread that was not created by Visual Basic.

For instance, certain API calls such as `CreateThread()` and `RegisterServiceCtrlHandler()` create an additional thread before invoking the callback function that was previously setup by using the `AddressOf` operator. Although the same code may have worked in previous versions of Visual Basic, calling API's of this nature are currently unsupported in Visual Basic.

RESOLUTION

If the crash is occurring at the specified instruction and address described in the Symptoms section, then two possible work arounds may help:

- Try running the application after compiling the project to P-Code.
- or-
- Call the API functions through the use of a type library.

MORE INFORMATION

These API functions use a Free threading model, but Visual Basic only supports Apartment-model threading. Furthermore, additional care must be taken with regards to what code can be executed within the callback function. Any use of the following within the callback function may cause undesirable results:

- File I/O.
- Error handling.
- Fixed size arrays.
- Set statements.
- COM method calls that return HRESULTs (such as any Visual Basic ActiveX object).
- Declare calls.
- Global objects such as the Application object.
- Most of the Visual Basic run-time files.

REFERENCES

For more information on using threads in Visual Basic, please see the following: Visual Basic Books Online, "Apartment-Model Threading in Visual Basic"

Pattison, Ted, *Programming Distributed Applications with COM and Microsoft Visual Basic 6.0*. Microsoft Press, 1999, Chapter 7, "Exploring Apartments and Multithreading".

McKinney, Bruce, *HardCore Visual Basic*. Microsoft Press, 1997 Chapter 11, "Threads and Synchronization"

Appleman, Daniel, *A Thread to Visual Basic* article located at the following Web URL:

<http://www.desaware.com>

For additional information, please see the following articles in the Microsoft Knowledge Base:

[Q189133](#) Make C DLL More Accessible to VB with a Type Library

[Q143258](#) How to Create Constants and DLL Declarations in a Type Library

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