

IDA Debugger: Overview

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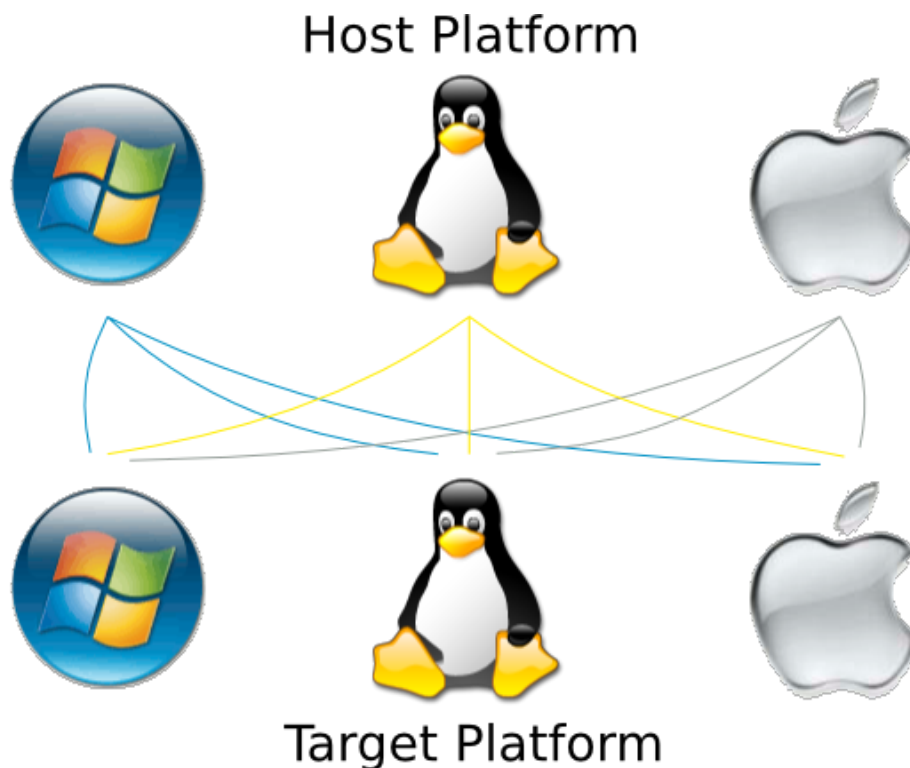
Adding Dynamic Analysis to IDA

In addition to being a disassembler, IDA is also a powerful and versatile debugger. It supports multiple debugging targets and can handle remote applications, via a "remote debugging server".

Overview

Debugging files on the three platforms IDA natively runs on (i.e., Windows, Linux, Mac OS X) is straightforward, and thanks to the power of remote debugging servers, it is possible to enable debugging of any executable, from any platform!

Look at how easy we've made it:



There! How's that for simplicity: from anywhere, you can debug anything!

You can be sitting at a Mac OS X machine, and get to debug Windows programs on another machine - or even in a virtual machine (that's actually how we enable kernel debugging. See details below!)

This, of course, is just an overview. Below, you will find a [detailed table](#) describing exactly what is supported, as well as some additional notes.









Cross-Platform Debugging Is Powerful!






IDA's Cross-Platform debugging features these characteristics:

- Instant debugging, no need to wait for the analysis to be complete to start a debug session.
- Easy connection to both local and remote processes.
- Support for 64 bits systems and new connection possibilities.


Detailed Debugging Capabilities

Here are more details on how to debug specific platforms, from other platforms:

	IDA runs on: Windows 	IDA runs on: Linux 	IDA runs on: Mac OS X 	Additional Notes
Target Platform: Windows 32/64-bit 	Local/Remote	Remote	Remote	On 64-bit Windows platforms, remote only.
Target Platform: Linux 32/64-bit 	Remote	Local/Remote	Remote	On 64-bit Linux platforms, remote only. Supported platforms: x86/x64/ARM32 Linux/ARM Android
Target Platform: OS X x86/x64 	Remote	Remote	Local/Remote	On 64-bit Mac OS X platforms, remote only.
Target Platform: Windows CE 	Remote	/	/	MS Windows CE 4.x and 5.x on ARM are supported. Higher versions may work but we have not tested them.
Target Platform: EPOC 	Remote	/	/	

Target Platform: iPhone 	Remote	/	/	Discontinued in IDA v5.6
Target Platform: Bochs 	Bochs Emulator	Bochs Emulator	Bochs Emulator	
Target Platform: GDB Server 	GDB Server	GDB Server	GDB Server	Debugger based on GDB Server . Particularly useful for windows or linux kernel debugging via VMWare, or even QEMU-based debugging. Currently supported processors: x86, ARM32, PowerPC, MIPS.
Target Platform: WinDBG 32/64-bit 	Remote	/	/	Both user-mode and kernel-mode debugging are available. 64-bit debugging is supported too. See the help page
Target Platform: Android (Dalvik) 	Remote	Remote	Remote	Both DEX bytecode and source level debugging are available. Please note that our Linux debugger can handle native code as well.

Notes

- All debuggers are scriptable. For more information, check out [this](#) page
- Remote debugging tutorial is available [here](#) 
- iPhone v1.x debugger is discontinued in IDA v5.6
- Bochs debugger is available under Linux and Mac OS X starting from IDA v5.7

Tutorials

We have written many tutorials to help get you started using the debuggers:

- Using IDA's debugger under windows.
- Debugging on a Windows machine.
- Debugging on a Linux machine.
- Debugging a Linux executable from a Windows machine.
- Debugging a Windows executable from a Linux machine.
- Debugging a Windows 32-bit executable from *another* Windows 32-bit machine.
- Debugging a Windows 64-bit executable from a Windows 32-bit machine.
- Debugging a Windows 64-bit executable from a Linux machine.
- Debugging a Linux executable from *another* Linux machine.
- Using IDA's debugger under Mac OS X.
- Debugging WindowsCE ARM32 applications.
- Debugging Symbian applications.
- Debugging Windows applications with the Bochs debugger plugin.
- Debugging Windows applications with the Bochs debugger plugin under Unix.
- Using IDA's GDB Server plugin with QEMU.
- Using IDA's GDB Server plugin with VMWare: Debugging the Linux Kernel.
- Using IDA's GDB Server plugin with VMWare: Debugging the Windows Kernel.
- Debugging Windows applications with IDA's WinDBG plugin.
- Windows debugging is available since IDA 4.3.
- Linux debugging is available since IDA 4.7.
- Some example of Mac OS X debugging.
- Debugging Dalvik applications. **NEW!**

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