CHAPTER 10

Using Soft-ICE with MagicCV or MagicCVW

        203

10.1 Introduction

MagicCV allows you to run Microsoft's CodeView in less than 8K of conventional memory on your 80386 machine.

MagicCVW allows you to run Microsoft's CodeView for Windows in less than 8K of conventional memory on your 80386 machine.

Using Soft-ICE in combination with MagicCV or MagicCVW allows you to have the power of Soft-ICE while still having the convenience of using the CodeView product that you are familiar with.

In the rest of this chapter, statements about MCV will apply to both MagicCV and MagicCVW, and statements about CV will apply to both CodeView and CodeView for Windows.

10.2 Running Soft-ICE with MagicCV or MagicCVW

To use Soft-ICE 2.0 and MCV together, you must install S-ICE.EXE as a loadable device driver. S-ICE.EXE comes on the Soft-ICE diskette. S-ICE.EXE replaces NUMEGA.SYS in CONFIG.SYS. Use the /MCV, /EMM, and the /EXT switches as if using MagicCV or MagicCVW alone. There are additional switches that you may want to use for Soft-ICE. Refer to chapter 6 for information about these switches.

To run MagicCV or MagicCVW after Soft-ICE has been loaded, refer to your MagicCV or MagicCVW manual.

Notes:
MagicCVW requires Soft-ICE version 2.00 or greater.

MagicCV requires Soft-ICE version 1.02 or greater. The S-ICE.SYS and NUMEGA.SYS drivers were shipped with some versions of Soft-ICE. The S-ICE and NUMEGA

        204

drivers must be replaced by S-ICE.EXE before you can run MagicCV and Soft-ICE 2.0

together.

10.3 Special Considerations

Two Virtual Machines

When you are using both Soft-ICE and MCV together, you must keep in mind that CV is in a separate virtual machine from the target environment. You can pop Soft-ICE up from either virtual machine, i.e., when CV is running, or when the target program is running.

If you pop Soft-ICE up while the target program is running everything works as defined in the Soft-ICE manual. If you pop Soft-ICE up while CV is running (typically done to break points), you must keep a few points in mind:
  * The registers are those of CV and they CAN NOT be changed.
  * For convenience, the Soft-ICE MAP command displays the memory map of the target program virtual machine, not the memory map of the CV virtual machine. The highlighted area in the memory map may not be correct.
  * Any display or modification of memory occurs in the target program's virtual machine.
  * You have no visibility into the CV virtual machine except for the display of register values. Remember that when popping up the Soft-ICE window while CV is active, the register values are those of CV and should not be modified.
  * Instruction and program tracing is disabled from the Soft-ICE window when CV is active. This is to prevent confusion, because a trace would actually step through CV, not through the target program.

205

If you attempt to do a Soft-ICE Trace (T) or Program Step (P) command while CV is active, you will get the warning message: "Function not available in CV virtual machine." To trace through your target program code instead, you can do one of two options:
  * Use the CV trace command. To do this, exit the Soft-ICE window using the Soft-ICE X command, then do one or more CV traces to step through the target program.
  * Use Soft-ICE to go to the target program

address, then use the Soft-ICE T or P
commands to step through your target
program. To do this, exit the Soft-ICE window
with the Soft-ICE X command, then press the
'F3' key until CV is in 'mixed mode'. This
allows you to see both the source lines and the
instruction addresses. Pop up Soft-ICE. If the
Soft-ICE window is not already in narrow
mode, use the Soft-ICE WIN command to
change the window size. Move the Soft-ICE
window so you can see the instruction
addresses on the left side of the screen. Now
you can use the Soft-ICE G command to go to
one of the addresses. Be sure to type in the full
address, including the segment and the offset.
Then enter 'G' in the CV window. At this
point, CV is not active, so you can use the
Soft-ICE T or P commands to step through t
target program.

CodeView's SHELL command

If you run the DOS shell from within the CodeView virtual machine, the DOS shell is part
of the virtual machine. Because of this, you should not run any TSRs when you are in
the DOS shell. If you do, when you exit CodeView the TSRs will disappear along with the
virtual machine. This is

206

dangerous, because any interrupt vectors that were not restored could hang your
machine.

CV's /R switch

Soft-ICE takes advantage of many of the 80386 features including the 80386 debug
registers. This means that the debug registers are not available for CV, so you cannot
use the CV /R switch when running with Soft-ICE. If you do use the /R switch, Soft-ICE
gives you a general protection error. At this point, you can press "C" to continue, then
rerun CV without the /R switch, and use the Soft-ICE break points.

The CV /R switch works when you are running MCV without Soft-ICE.

3.4 The Soft-ICE ACTION Command

The ACTION command allows three different methods activating CV from a Soft-ICE
break point. The best choice of action is ACTION NMI. If you experience any problems

with ACTION set to NMI (usually because an adapter card in your system is using NMI), use ACTION INT1.

207

PAGE 208 is BLANK

208