

Tech Note 1029

IDEA Toolkit Application Hangs on PtAcclnit() on 64-bit Operating Systems

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Introduction

InTouch Database External Access Toolkit – also called as IDEA Toolkit is used to write external applications to read or write InTouch runtime values.

When an application written with IDEA Toolkit is executed on 64-bit Operating System (eg: Windows 7 64-bit), it hangs on method PtAcclnit().

Other Symptoms:

1. The GUI of IDEA application may not be seen and high CPU usage is observed.
2. The IDEA application throws following messages in logger:

```
Info WWHEAP Assertion Error: File u:\alarmmgrdev\src\sys tools\wwheap\wheap.c Code {B61E38E9-4E70-11d2-8070-00A0C90055CE}
Info WWHEAP (0003) HShareInternal: Could not map @80030000. Error 487
Info WWHEAP (0003) HShareInternal: Attempt to access invalid address.
Info WWHEAP (0003) pid = 3, T = 5312, Registered = 1
Info WWHEAP Assertion Error: File u:\alarmmgrdev\src\sys tools\wwheap\wheap.c Code {B61E38E9-4E70-11d2-8070-00A0C90055CE}
Info WWHEAP (0003) HShareInternal: Could not map @80040000. Error 487
Info WWHEAP (0003) HShareInternal: Attempt to access invalid address.
Info WWHEAP (0003) pid = 3, T = 5312, Registered = 1
```

Operating System Versions

- 64-bit Operating Systems (Windows 7 64-bit, Windows 2008 R2 64-bit etc.)

Cause

These messages are because of running the IDEA application on a 64-bit machine.

On 64-bit machines when the IDEA application is run, the GUI of the IDEA application (eg: cideaapp.exe, one of sample applications) is not seen and there is high CPU usage observed. This happens because the application is not supported in the 64-bit environment.

To make this application work on a 64-bit environment, the **"/LARGEADDRESSWARE"** option must be added to the EXE file in order for

the application to handle addresses larger than 2 gigabytes.

wwHeap has a built-in limited range of 2 GB coverage. That 2 GB range can be anywhere legitimately, within the virtual address space of the application.

The virtual address space of a 32-bit /LARGEADDRESSAWARE application is:

1. 32-bit system /3GB switch is DISABLED = 2 GB
2. 32-bit system /3GB switch is ENALBED = 3 GB
3. 64-bit system = 4 GB

When a 32-bit application is Large Address Aware, it can access up to 4 GB on x64 operating systems and up to 3 GB on x86. This can be done by completing the following steps.

Solution

1. Copy **ideaapp.exe** to a machine that has Visual Studio 2003 or later installed.
2. Click Start/All programs/Microsoft Visual Studio 2010(or 2003/2005/2008) and click **Visual Studio Tools/Visual Studio 2010 Command prompt**.

Figure 1 (below) shows the Visual Studio 2005 Command prompt:

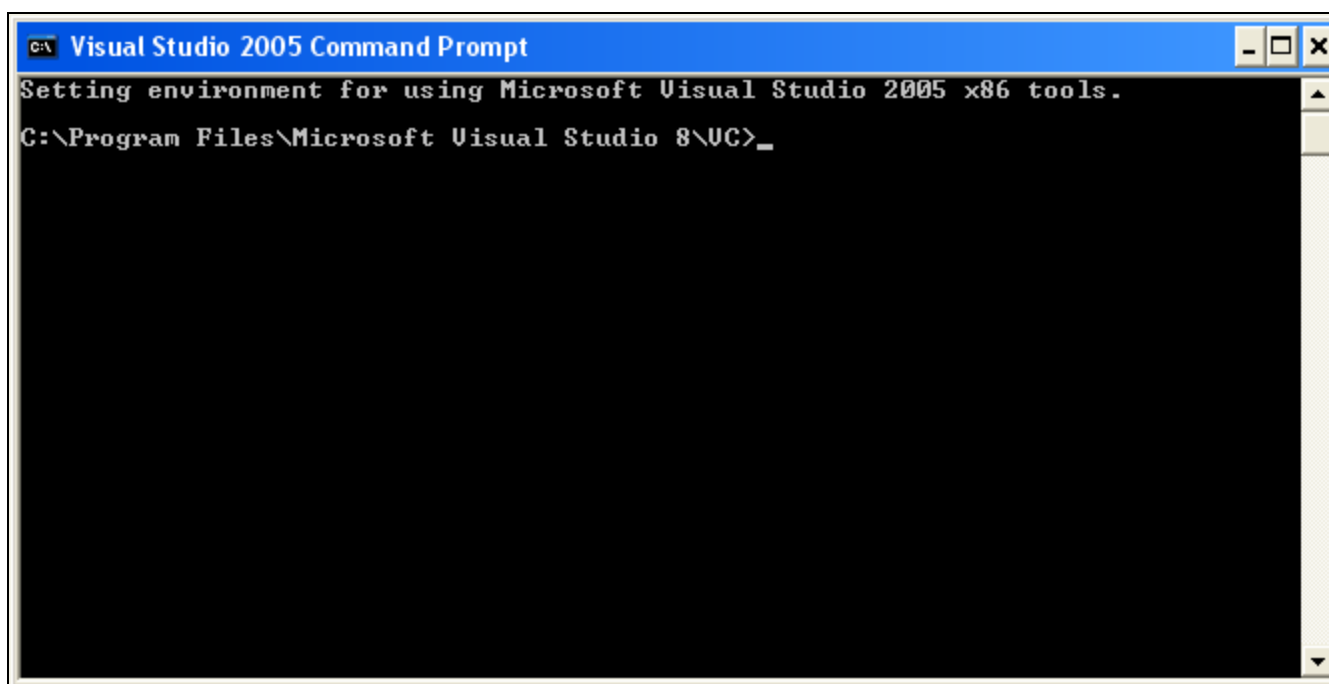


FIGURE 1: VISUAL STUDIO 2005 COMMAND PROMPT

3. In the command prompt type **editbin /LARGEADDRESSAWARE <IDEA app exe with complete path>** (Figure 2 below).

```

C:\Program Files\Microsoft Visual Studio 8\UC>editbin /largeaddressaware "C:\Program Files\Wonderware\IET71\IDEA\Samples\CideaApp\w32\i386\d\cideaapp.exe"
    
```

FIGURE 2: EDITBIN COMMAND

4. Press **Enter**. A successful editbin command looks like Figure 3 (below):

```

C:\Program Files\Microsoft Visual Studio 8\UC>editbin /largeaddressaware "C:\Program Files\Wonderware\IET71\IDEA\Samples\CideaApp\w32\i386\d\cideaapp.exe"
Microsoft (R) COFF/PE Editor Version 8.00.50727.762
Copyright (C) Microsoft Corporation. All rights reserved.

C:\Program Files\Microsoft Visual Studio 8\UC>
    
```

FIGURE 3: SUCCESSFUL EDITBIN COMMAND

5. Take the new EXE file and replace the existing file in the 64-bit machines.
6. In post-Vista 64-bit machines change the User Account Control (UAC) to never notify (turn off UAC) from **Control Panel/User Accounts/User Accounts**, and restart the machine.
7. Run the application.

After this there should be no high CPU usage and the EXE will work as intended.

References

Refer to the Microsoft [/LARGEADDRESSAWARE KB article](#) for additional info.

P. Kulkarni

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